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THE

REGISTRAR-GENERAL'S

STATISTICAL REVIEW

OF

ENGLAND AND WALES,

FOR THE YEAR

1927.

(New Annual Series, No. 7.)

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LIST OF CORRIGENDA

IN THE STATISTICAL REVIEW.

YEAR 1926.

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Table XXII (*Page* 30.)—Mortality per 1,000 Living, 1911–20 and 1921–1925.

All Causes : *Males*—

In place of 116·0 and 114·9 read 115·4 and 109·2.

Females—

In place of 101·0 and 96·6 read 98·7 and 95·7.

Persons—

In place of 107·2 and 104·0 read 105·6 and 101·2.

(*Page* 82.)—In fourth line of last paragraph instead of 498 read 499.

YEAR 1927.

TABLES : PART I.—MEDICAL.

Table 4. (*Page* 8.)—Deaths. Cause 22 (1) Poliomyelitis. Year 1927. Males—Number of Deaths should be 67.

(*Page* 10.)—Deaths. Cause 46 Cancer of Female Genital Organs. Year 1926. Number of Deaths should be 5,791. (Figure omitted from some copies only.)

Table 14. (*Page* 89.)—Add to footnote † Death-rates based upon estimated civilian populations as follows :—Peterborough, Soke of—Administrative County, 49,580 ; Rural Districts, 12,380 ; Barnack R.D., 1,990.

TABLES : PART II.—CIVIL.

Table E. (*Page* 34.)—Add to footnote same as for Table 14 (*page* 89) of Part I. (*see* above).

STATISTICAL REVIEW, 1927.

Note—Of the tables referred to below, those numbered in Arabic will be found in "Tables, Part I—Medical," and those lettered in "Tables, Part II—Civil," while those numbered in Roman numerals appear in the text of this volume.

DEATHS.

The deaths of 484,609 persons were registered in England and Wales during 1927, 246,606 of these being males and 238,003 females. This number is the highest since 1922, and is 7 per cent in excess of that for the preceding year.

Deaths of civilians, including all deaths of females and 99·83 per cent. of those of males, are referred in tabulation to their administrative area of residence, and therefore figure in all tables relating to portions of the country. It has been found, however, that similar treatment cannot be satisfactorily applied to the deaths of non-civilians, which are therefore excluded from all tables relating to local areas. Table 17, accordingly, so far as it refers to England and Wales as a whole, includes all deaths registered, but when referring to the population as subdivided by class of area includes only deaths of civilians; and the same restriction to civilian mortality only applies to all tables embodying distinction of local area.

Death-Rate.—The 484,609 deaths correspond to a rate of 12·3 per 1,000 of the estimated population. When standardized* to correct for the deviation of the sex and age distribution of the population, as shown in Table LXI, from that of the standard population of 1901, this death-rate is reduced to 10·6.

As the population of this country in 1901 included relatively few infants and old people it forms a standard exceptionally favourable to low mortality. Its use for this purpose accordingly yields comparatively low standardized rates all round. In order to correct any wrong impression which might arise from this fact, and to provide standardized rates for this country comparable with those of countries using the standard recommended by the International Statistical Institute (a composite population made up of those of a large number of European countries in 1900 or 1901), rates calculated upon the latter by the method suggested by the Institute on page viii of the "Annuaire international de statistique, II. Mouvement de la population (Europe)," are shown in Table XVI, as well as those based on the 1901 English standard, which is that always used elsewhere in this Review. It will be seen that use of the less favourable standard increased the rate from 10·6 to 11·9 per thousand.

* The term "standardized death-rate" means the death-rate corrected for differences of sex and age constitution of the population. For a description of the direct method employed for this "standardization" *see* the Annual Report for 1911 (pages xxvii-xxxi). Standardized death-rates for the sexes separately quoted in this Review are based upon the age distribution of persons of undistinguished sex in the general population of England and Wales in 1901. (*See* Annual Report for 1913, page xx.)

In 1926 it was 10·1, and in 1923, 10·3 (Table 1); but apart from these two years no other has ever returned so low a rate as that for 1927. The crude rate shows to less advantage, five of the six preceding years, but none before 1921, presenting lower records.

Increasing Effect of Standardization.—This contrast arises from the tendency of the crude death-rate to increase at the present time, irrespective of any change in mortality, as a result of the ageing of the population now being caused by the rapid fall in both birth-rate and death-rate (*see* pages 22 and 116). As this tendency is compensated by standardization it may be measured by the change going on in the ratio of standardized to crude death-rate (Table 1), the fall of the standardized rate being due simply to decline of mortality, and that of the crude rate to the same cause partly offset by ageing of the population. The proportionate difference between the two rates, accordingly, substantially measures the effect of the latter factor, though change in the proportions of the sexes in the population, which influences the crude but not the standardized rate, also affects the ratio between them. But as this ratio has followed practically the same course for each sex (apart from some disturbance due to the war) as that plotted in Diagram 1 for both sexes, showing that when change in sex constitution is eliminated the effect of standardization is not much influenced, the diagram may probably be accepted as a sufficiently approximate record of the effect of age changes alone upon mortality.

The record of this ratio from 1841–45 onward is plotted in Diagram 1.

Diagram 1.—England and Wales, 1841-45 to 1927—Standardized Mortality per cent. of Crude.

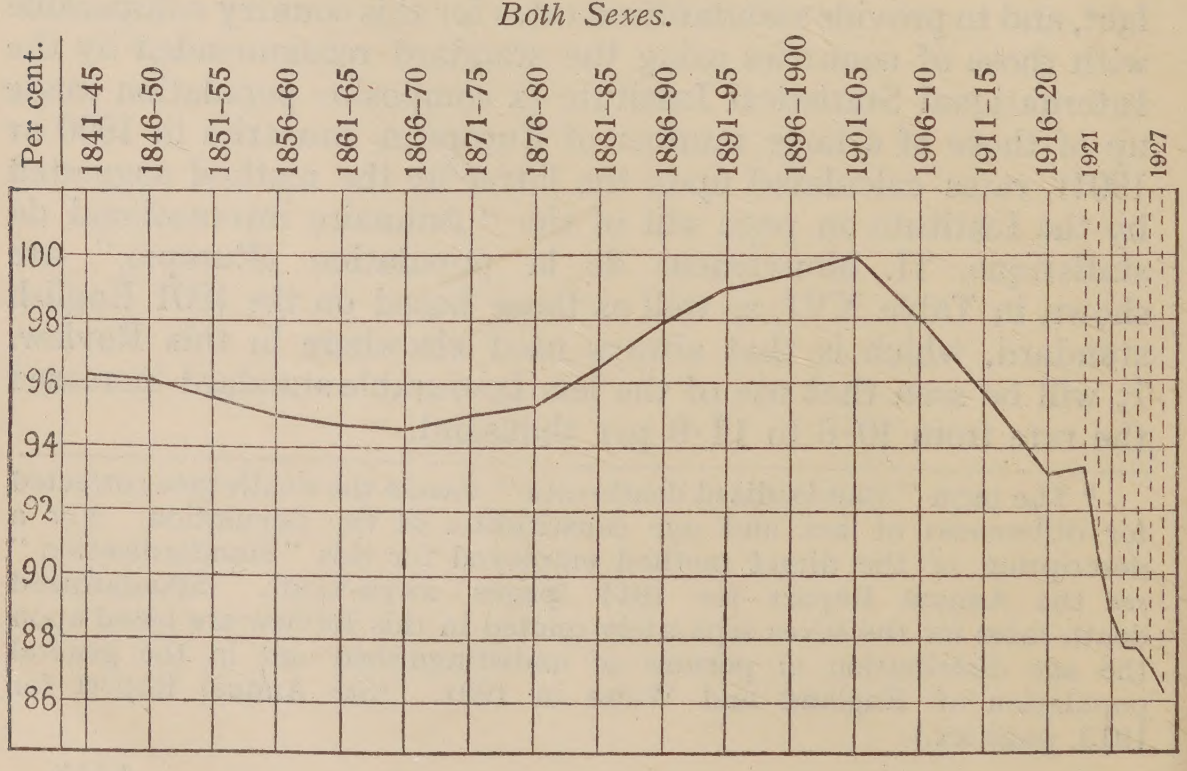
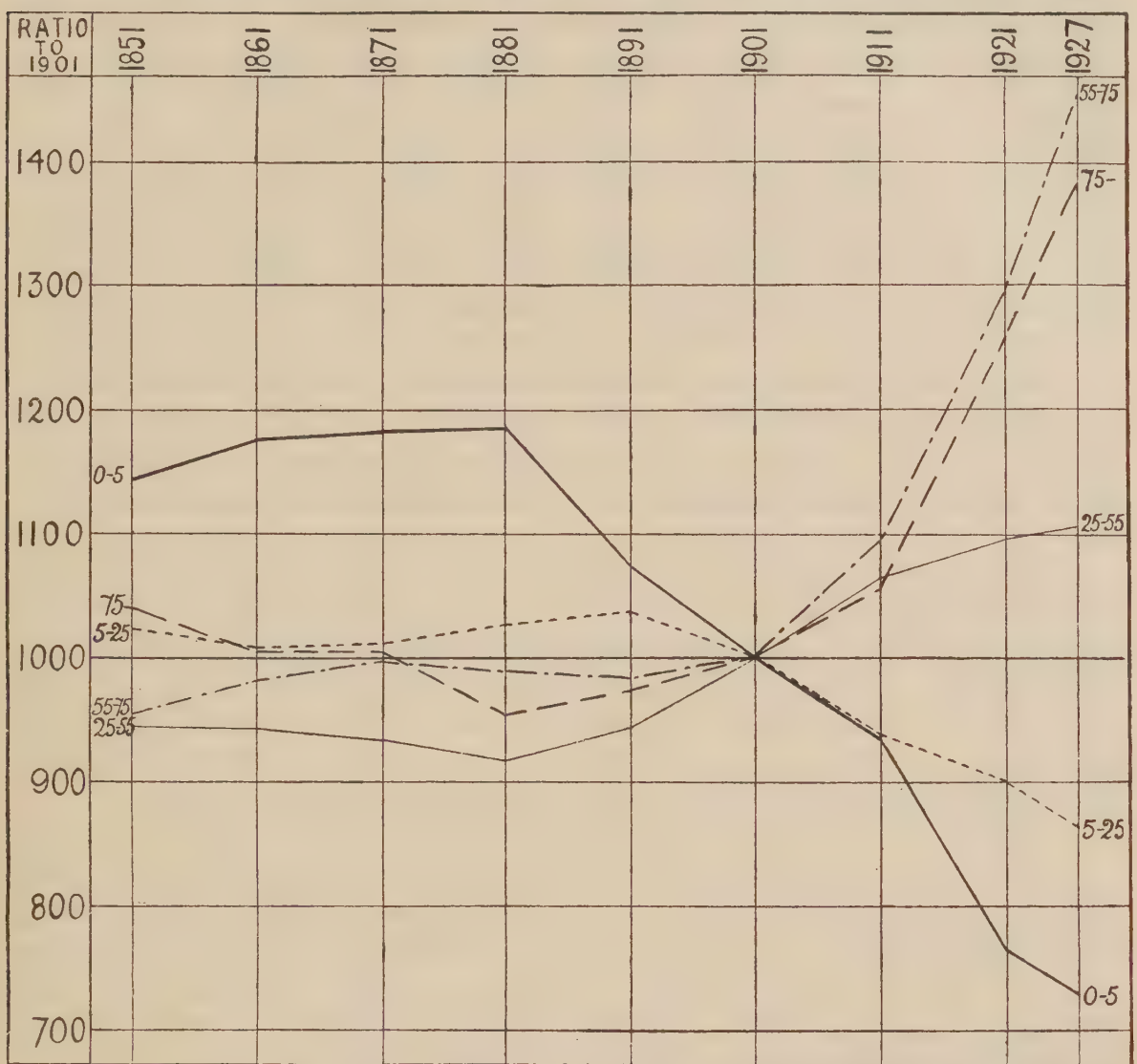


Diagram 2.—England and Wales—Proportions of Population of certain Ages at other dates compared with those in 1901 taken as 1,000.



Until 1901–05, when (as necessarily also in 1901, the year of standard population) the crude and standardized rates in Table 1 are identical, change in this ratio had been comparatively slight, indicating that during these sixty years such changes as occurred in the age distribution of the population had little effect upon mortality. The age constitution of the English population was, in fact, relatively stable during the latter part of the nineteenth century, as may be seen from Diagram 2. After a period of practical constancy from 1841–80 it gradually became more favourable to longevity during the succeeding twenty years, in consequence of the fall in the birth-rate dating from 1877. This had the effect of decreasing the proportion in the age-group 0–5, for which mortality is now almost exactly double the average for all ages, while in the last century the excess was very much greater (Table 3). As the changes occurring during the same period in the proportions at later ages were slight (Diagram 2) the constitution of the population became progressively more favourable to low mortality till the end of the century. But afterwards other influences came into play, chiefly reduction of mortality in later life, which have greatly increased, especially since 1911, the proportions living at ages over 55 (Diagram 2). Owing to the high mortality at

these ages this change has tended towards rapid increase of the crude rate, and so of the difference between it and the standardized, from which the effect of the change is eliminated. The increase of this difference during the last seven years, plotted individually in Diagram 1, is remarkable. It would have been still greater but for the counterbalancing influence of the continued decrease in the proportion at ages 0–5, which since 1881 has steadily tended towards reduction of the crude rate. Despite this, however, the effect of the rapidly rising proportions at ages over 55 has sufficed to increase the effect of standardization more during the last seven years than during the preceding twenty (Diagram 1). It is for this reason that, as pointed out in the Review for 1926, standardization is becoming of rapidly increasing importance at the present time, the significance of change in the crude mortality from many causes (Table 5) being quite doubtful in its absence.

The record of the changes discussed may be found in Table 22 of Vol. 7 of the Report on the census of 1911, which records proportionate numbers of persons by quinquennia of age at each census 1851–1911. This record is brought up to date in Table II, and from these sources Table I has been constructed, showing how the proportions at five stages of life have varied from 1851 to 1927 as compared with those in the standard population of 1901.

The five age-groups in this table have been chosen with reference to their mortality. At 5–25 this is very low (23 per cent. of standardized rate in 1927) and at 25–55 moderately low (59 per cent.). At 0–5 and at 55–75 it is moderately high (201 and 308 per cent.) and at 75– very high indeed (1,376 per cent. of the average represented by the standardized rate).

Table I.—England and Wales : Persons at five Groups of Ages per Million at all Ages at each Census 1851–1921 and as estimated in Table LXI for 1927.

	1851	1861	1871	1881	1891	1901	1911	1921	1927
0– 5	130,977	134,594	135,225	135,551	122,523	114,262	106,857	87,675	83,387
5–25	414,418	409,214	410,173	416,686	421,206	405,686	380,055	365,121	350,263
25–55	352,060	351,437	348,246	342,939	351,811	373,650	397,288	409,851	412,708
55–75	88,426	91,106	92,728	91,880	91,263	92,821	101,434	120,243	134,878
75–	14,119	13,649	13,628	12,944	13,197	13,581	14,366	17,110	18,764
All Ages ..	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000

Ratio of above Proportions at other Dates to those in 1901.

0– 5	1,146	1,178	1,183	1,186	1,072	1,000	935	767	730
5–25	1,022	1,009	1,011	1,027	1,038	1,000	937	900	863
25–55	942	941	932	918	942	1,000	1,063	1,097	1,105
55–75	953	982	999	990	983	1,000	1,093	1,295	1,453
75–	1,040	1,005	1,003	953	972	1,000	1,058	1,260	1,382

The changes recorded in this table may be more conveniently studied as plotted in Diagram 2, which has already been referred

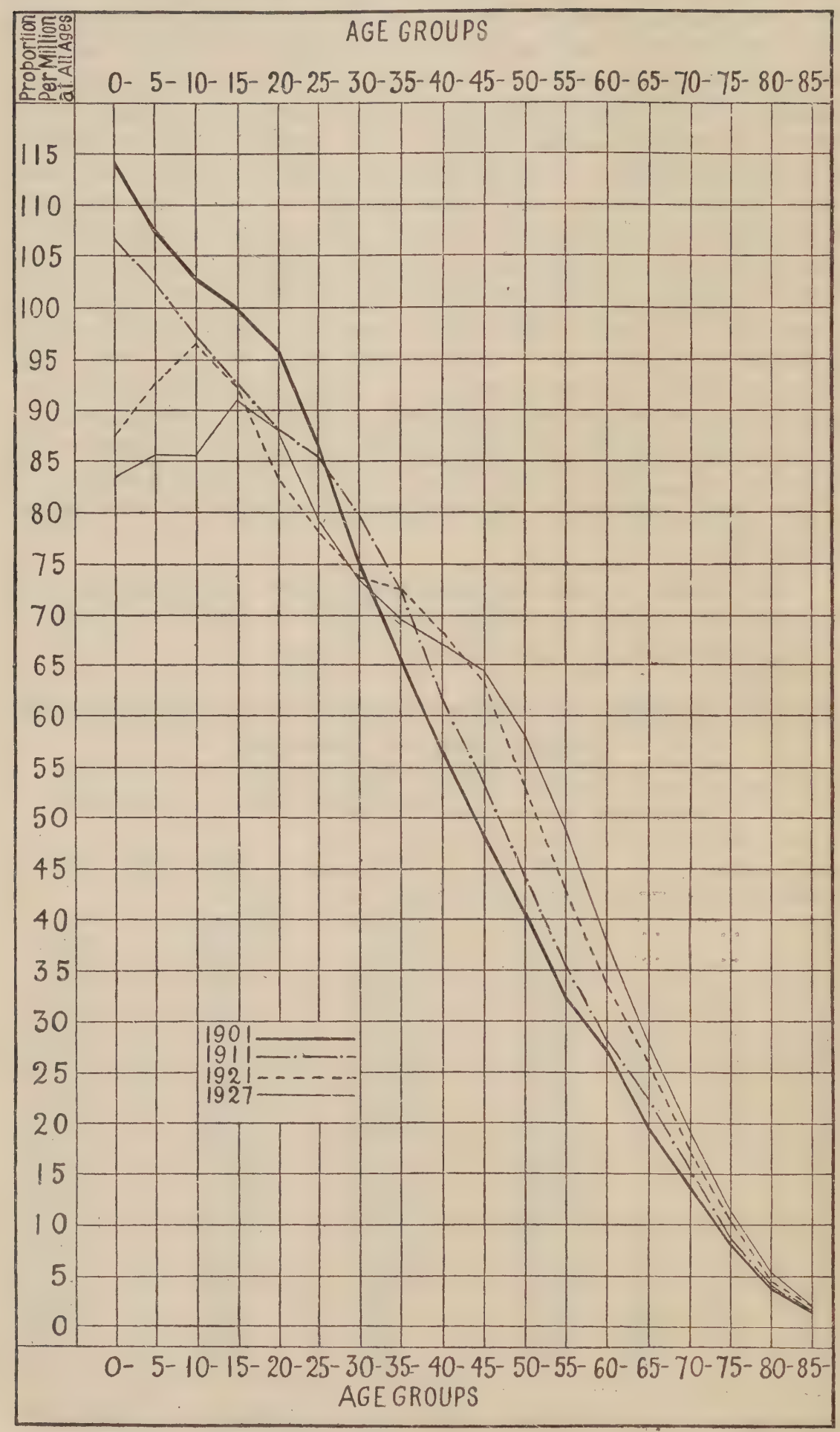
to in considering the causes of the variation in the effect of standardization represented in Diagram 1. Before 1901 age constitution had remained almost constant for fifty years, except for proportional decrease of the high mortality group 0–5, following the commencement of decline in the birth-rate ; but since that date change has been rapid. The weight of the 0–5 group has continued to fall at much the same rate as before, this movement, and some increase in weight of the 25–55 group, tending towards reduction of crude mortality. But the increase at 25–55 is much more than offset by the decrease at 5–25, a group of comparable numerical importance and far lower mortality. But by far the most important change now going on is the rapid increase in weight of the two highest age-groups considered, 55–75 and 75 and over, especially since 1911. Jointly these have now a weight almost double (184 per cent.) that of the 0–5 group, with mortality more than twice as great (218 per cent.), so their rapid increase forms a factor promoting high crude mortality of far greater influence than that, in the opposite direction, of the decrease at the early ages. Its effect is much greater than that of any of the changes at other ages, and forms the dominating feature of the present situation.

The details of the changes which have occurred since the enumeration of the standard population in 1901 are stated by quinquennia of age in Table II and in Diagram 3, derived from it.

Table II.—England and Wales—Changes in the Age Distribution of the Population, 1901–1927.

Age	Persons of various Ages per Million of all Ages in the years			
	1901	1911	1921	1927
0–	114,262	106,857	87,675	83,387
5–	107,209	102,488	92,880	85,623
10–	102,735	97,023	96,599	85,534
15–	99,796	92,502	92,461	91,005
20–	95,946	88,042	83,181	88,101
25–	86,833	85,362	78,134	79,155
30–	74,746	79,765	73,930	73,748
35–	65,956	72,449	72,459	69,714
40–	56,893	61,896	68,657	67,149
45–	48,365	53,384	63,508	64,478
50–	40,857	44,432	53,163	58,464
55–	32,359	35,443	43,042	49,012
60–	27,382	28,276	33,838	38,311
65–	19,358	22,368	26,027	28,113
70–	13,722	15,347	17,336	19,442
75–	8,131	8,593	10,362	11,330
80–	3,959	3,997	4,747	5,370
85–	1,491	1,776	2,001	2,064
All Ages ..	1,000,000	1,000,000	1,000,000	1,000,000

Diagram 3.—England and Wales—Population in Quinquennial Age-groups per Million at All Ages—Persons.



At all ages under 20 proportions are lower now than at any of the three preceding censuses (or indeed at any census) and at all over 45 they are higher, increase being uninterrupted at each age since 1901. This increase has resulted both from large decline of mortality at most ages over 45, especially the younger and more important (Table 3) and from the fact that persons over 45 are survivors from a period when the population was being more rapidly recruited by new births than at present. This effect of the fall in the birth-rate starting in 1877 may be traced in the diagram in the form of a wave in the ages curve at 15–25 in 1901 which had passed on to 25–35 in 1911, and, accentuated by war losses at earlier ages, to 35–50 in 1921, and about 40–55 in 1927. In each case the relatively numerous age-groups represent survivors of the births of about 1875–85.

Mortality of different portions of the year.—Table 2 shows that the March quarter was alone responsible for the increased rate of 1927, all the other three returning rates amongst the lowest yet recorded. But there were more deaths in the March quarter than in any corresponding period since the great influenza epidemic. The excess for this quarter over 1926 was 38,149, to which total it may be seen from Table 18 (1926 and 1927) that influenza contributed 15,030, pneumonia 5,895, and other respiratory diseases 7,193. The chief excess was in February.

Mortality of each sex.—Table 3 shows that the standardized rate for males rose from 11·2 in 1926 to 11·8, and that for females from 9·1 to 9·6, the rates for 1926 being in each case the lowest yet recorded. These rates yield an excess for males of 23 per cent. which Table III shows to be greater than in any of the seventeen quinquennia 1841–45 to 1921–25, except 1911–15 and 1916–20, when male civilian excess was artificially increased, by selective recruiting of the healthy, to 23 and 28 per cent. In the first two of these quinquennia the excess for males amounted to only 9 and 8 per cent. respectively, but since then, and especially from 1856–60 to 1876–80 and from 1896–1900 onwards, excess for males has been progressive. Its increase has been greatest in middle life, 35–65, the period when it is greatest. From 1851–55 to 1906–10 the maximum has been constantly at 45–55, as also in 1926 and 1927.

Further evidence of the tendency for the male death-rate to increase as compared with the female may be found in the fact that for the third year in succession there is male excess in 1927 for each age period distinguished in Table 3 (page 24). Before 1925, as Table III shows, slight female excess was the rule at 10–15, with extension at times to each of the adjoining ages, 5–10 and 15–20. At 20–25 mortality has been uniformly higher for males, but in the middle of last century it was steadily higher for females at 25–35. At that time tuberculosis, which then accounted for almost half the total deaths at 25–35, was more fatal to females at this age, whereas from 1871–80 onwards its mortality has been

Table III.—England and Wales.—Mortality of Males per cent. of that of Females at Various Ages from 1841–45 onwards. (*See* Table 3).

	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–	85–	All Ages.
1841–45	117	102	92	88	105	95	101	114	111	111	109	106	109
1846–50	116	103	95	91	104	94	99	113	112	111	109	107	108
1851–55	116	104	98	90	103	97	102	118	114	112	110	106	110
1856–60	115	99	96	90	102	96	103	118	115	111	108	107	109
1861–65	115	102	98	93	105	100	109	122	118	112	109	110	111
1866–70	115	107	100	94	106	105	113	124	120	115	109	111	113
1871–75	117	108	100	97	109	109	119	128	121	114	111	110	115
1876–80	118	107	97	96	108	109	119	129	122	114	112	111	116
1881–85	118	102	97	96	102	104	117	127	122	116	113	112	115
1886–90	119	100	97	98	106	107	117	129	122	117	112	114	116
1891–95	119	98	96	100	108	108	118	128	121	115	111	110	116
1896–00	118	98	96	106	120	116	122	129	124	117	113	109	118
1901–05	119	97	95	107	119	118	121	130	128	119	115	110	119
1906–10	119	97	95	107	121	118	121	129	128	121	115	113	120
1911–15	120	100	95	111	125	124	126	131	133	125	121	113	123
1916–20	121	100	92	105	147	156	141	135	137	133	122	112	128
1921–25	124	104	100	100	113	114	130	132	133	127	119	110	122
1926 ..	124	109	100	104	107	112	133	135	134	129	123	111	123
1927 ..	125	109	107	104	110	112	135	137	134	129	120	108	123

greater for males. This excess was greatest (apart from war years) in 1901–10, since when it has decreased, with corresponding decrease of the excess of male mortality from all causes, as seen in Table III.

In later life the male excess decreases with advancing age to a minimum in the neighbourhood of ten per cent. at 85 and upwards, but even this minimum excess is seen from the table to be very constantly present.

Infant Mortality.

Of the 484,609 deaths registered during the year, 45,610, or 9·4 per cent., were those of infants under one year of age. This proportion has fallen greatly of late years, owing mainly to reduction of the birth-rate. So recently as 1901–10 it was 22·6 per cent.

The rate of infant mortality resulting from these deaths is 70 per 1,000 live births, the lowest yet recorded in this country, with one exception, 69 in 1923, but the excess over 1923 is even smaller than these figures imply, rates per 10,000 live births being 697 in 1927 and 694 in 1923.

It has been pointed out in previous Reviews that for the years 1915–22 the conventional statement of infant mortality (deaths under one year of age registered in the year per thousand live births registered in the same year) was an unreliable measure of the extent of infantile mortality, owing to violent fluctuations in the birth-rate during, or immediately preceding, those years. In the Report for 1920 a method was described for obtaining a more exact statement of infant mortality by stating the deaths in proportion, not to the births registered in the same year but to all the infants born alive during the same three monthly periods as those which died. The results of this correction are applied in Table IV (rates in brackets), where it may be seen that since the

period of violent fluctuations of the birth-rate came to an end the effect of this revision of the crude rate has been much less. As in 1926 it had become evident that the correction, which was without effect in two of the three preceding years, was no longer required, it was then discontinued ; but it is still necessary to retain the restated rates for earlier years in the table in order to secure any accuracy in statement of the recent history of infant mortality.

Table IV.—England and Wales : Infant Mortality, distinguishing Mortality from Diarrhœal Diseases, 1861–1927.

Deaths under 1 year of age per 1,000 Live Births.

Year.	Diarrhœal Diseases.	Other Causes.	All Causes.	Year.	Diarrhœal Diseases.	Other Causes.	All Causes.	Year.	Diarrhœal Diseases.	Other Causes.	All Causes.
1861–65	15	136	151	1911	36 (36)	94 (93)	130 (129)	1921	14 (14)	69 (67)	83 (81)
1866–70	20	137	157	1912	8 (8)	87 (87)	95 (95)	1922	6 (5)	71 (70)	77 (75)
1871–75	19	134	153	1913	19 (19)	89 (90)	108 (109)	1923	7 (7)	62 (62)	69 (69)
1876–80	16	129	145	1914	17 (17)	88 (87)	105 (104)	1924	6 (6)	69 (68)	75 (74)
1881–85	14	125	139	1915	15 (15)	95 (91)	110 (106)	1925	7 (7)	68 (68)	75 (75)
1886–90	17	128	145								
1891–95	20	131	151	1916	11 (10)	80 (81)	91 (91)	1926	8	62	70
1896–00	31	125	156	1917	10 (9)	86 (82)	96 (91)	1927	6	64	70
1901–05	23	115	138	1918	10 (10)	87 (88)	97 (98)				
1906–10	18	99	117	1919	9 (9)	80 (84)	89 (93)				
1911–15	19 (19)	91 (90)	110 (109)	1920	8 (9)	72 (76)	80 (85)				
1916–20	9 (9)	81 (82)	90 (91)								
1921–25	8 (8)	68 (67)	76 (75)								

It will be seen from this table that whereas during the last forty years of the nineteenth century infant mortality was about stationary, some fall from other causes being counterbalanced by an increased death-rate from diarrhœa, the experience of the present century has been very different, the rate having been halved since its commencement. This fall has been a common experience in Europe and the civilized world generally, being accompanied elsewhere, as here, by a fall in the birth-rate which may go far to account for it.

The rate of fall has been very different at different periods of the first year of life, as shown by Table V. This table records the mortality per 1,000 live births at each of eleven subdivisions of the first year of life in each year from 1906 onwards, the rates for the years 1911–25 being corrected in the manner above referred to. It shows that infant mortality has never been lower than in 1927, except very slightly in 1923, and that while the important mortality of the first week was higher than in any other year since 1921, the rates for all ages between one week and six months were the lowest yet recorded. Even that for the first week was lower than any recorded prior to 1920.

Immediately after the war, during the four years 1920–23, a notable reduction of mortality occurred, applying to each age in Table V, but since then changes have been small, slight further falls between one week and six months being counterbalanced by slight increases at other stages of infancy. The table further shows that the fall during the 22 years for which detailed age

distinction is now available has been greatest (56 per cent.) at 3–6 months, and least during the first month, and especially the first day, of life, when many non-viable infants must be expected to perish, premature birth being largely responsible for the heavy mortality of the first day.

Table V.—England and Wales: Age Distribution of Infant Mortality, 1881-1927.

Year.	Days.		Weeks.				Months.					Total under one year.
	0–1	1–7	0–1	1–2	2–3	3–4	Total under four weeks	Four weeks to 3 months	3–6	6–9	9–12	
1881–1885	—	—	—	—	—	—	67		28	44		139
1886–1890	—	—	—	—	—	—	69		30	46		145
1891–1895	—	—	—	—	—	—	74		31	46		151
1896–1900	—	—	—	—	—	—	74		34	48		156
1901–1905	—	—	—	—	—	—	70		28	40		138
1906–1910	11·5	13·0	24·5	5·8	5·7	4·2	40·2	22·8	22·0	17·3	14·8	117·1
1911–1915*	11·4	12·7	24·1	5·7	5·3	3·9	39·0	20·2	19·6	15·9	14·1	108·7
1916–1920*	11·0	12·4	23·4	5·6	4·7	3·4	37·0	16·5	14·6	12·0	10·8	90·9
1921–1925*	10·4	11·3	21·7	5·0	3·9	2·8	33·4	12·8	11·3	9·2	8·3	74·9
1906	11·8	13·2	25·0	6·1	6·2	4·6	41·9	25·7	27·0	20·7	17·2	132·5
1907	11·3	13·1	24·4	6·0	5·9	4·5	40·7	23·3	21·3	17·3	15·1	117·6
1908	11·5	12·8	24·3	5·9	5·8	4·3	40·3	24·2	23·6	17·7	14·6	120·4
1909	11·6	13·2	24·7	5·7	5·3	4·0	39·8	20·4	19·2	15·6	13·8	108·7
1910	11·5	12·5	24·1	5·4	5·1	3·8	38·5	20·0	18·8	15·0	13·2	105·4
1911*	11·6	12·7	24·3	6·0	6·0	4·5	40·6	24·7	25·9	20·6	17·4	129·2
1912*	11·3	12·9	24·2	5·6	5·0	3·7	38·4	17·7	14·9	12·5	11·4	94·7
1913*	11·8	12·7	24·5	5·8	5·4	3·9	39·5	20·3	19·8	15·7	13·6	108·9
1914*	11·4	12·7	24·1	5·5	5·0	3·9	38·5	19·3	18·7	15·0	13·0	104·4
1915*	10·9	12·5	23·4	5·7	5·0	3·7	37·7	18·6	18·2	16·0	15·2	105·8
1916*	10·9	12·3	23·2	5·6	4·9	3·4	36·9	16·9	15·2	11·7	10·3	91·1
1917*	11·0	12·4	23·4	5·6	4·8	3·4	37·1	16·9	15·0	11·6	10·6	91·1
1918*	11·1	12·1	23·2	5·5	4·6	3·4	36·6	17·1	16·1	14·4	13·7	97·9
1919*	12·2	13·7	25·9	6·1	4·9	3·6	40·4	16·4	14·4	11·8	10·3	93·2
1920*	10·4	11·5	21·9	5·3	4·6	3·3	35·0	15·5	13·0	11·0	10·0	84·5
1921*	10·8	11·6	22·4	5·4	4·5	3·0	35·2	14·7	13·7	9·7	7·8	81·2
1922*	10·4	11·6	22·0	5·2	4·1	2·8	33·9	12·4	10·6	9·2	8·6	74·7
1923*	10·2	10·9	21·1	4·6	3·6	2·6	31·9	11·4	10·0	8·3	7·6	69·2
1924*	10·6	11·2	21·8	4·8	3·8	2·6	33·0	12·4	10·8	9·3	8·8	74·2
1925*	10·1	11·1	21·2	4·7	3·7	2·7	32·3	12·5	11·2	9·4	9·0	74·5
1926	10·0	11·3	21·3	4·6	3·6	2·5	31·9	11·6	10·4	8·6	7·7	70·2
1927	10·6	11·6	22·2	4·3	3·4	2·5	32·3	10·7	9·7	8·7	8·2	69·7
Rates per 1,000 of those for 1906–10.												
1906–1910	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1911–1915	991	977	984	983	930	929	970	886	891	919	953	928
1916–1920	957	954	955	966	825	810	920	724	664	694	730	776
1921–1925	904	869	886	862	684	667	831	561	514	532	561	640
1926	870	869	869	793	632	595	794	509	473	497	520	599
1927	922	892	906	741	596	595	803	469	441	503	554	595

* Corrected rates—see page 8.

Distribution of Infant Mortality.—Table VI shows how infant mortality was distributed in 1927 between the sexes and throughout the country.

The rates for the county boroughs and for the North are, as usual, in considerable excess, the highest rate in the table for infants of both sexes being 87 for the Northern county boroughs and the lowest 49 for the urban and rural districts of the South. In each year from 1911 onwards the rate for the Northern county

boroughs has been the highest in the table, and in each year except 1923 that for the rural districts of the South has been the lowest. For each class of area and for each sex mortality in 1927 decreased regularly from the North to the South of England, a statement applying also to each of the preceding 16 years.

Table VI.—Distribution of Infant Mortality, 1927.*

	Males.					Females.					Both Sexes.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	67	—	67	—	—	51	—	51	—	—	59	—	59
County Boroughs ..	99	84	64	90	91	74	63	48	73	68	87	74	56	82	80
Other Urban Districts	89	70	57	96	76	69	53	41	72	58	79	62	49	84	67
Rural Districts ..	81	65	55	84	69	68	52	44	67	55	75	58	49	76	62
All Areas	93	74	62	91	79	71	56	47	71	60	83	65	55	81	70

The comparisons suggested by Table VI are facilitated by Table VII, the chief features of which are also very constant from year to year, the greatest excess for the North being transferred from county boroughs to rural districts when comparison is made with the average for districts of similar type and not for the country as a whole, while in the South a similar change in point of view transfers the lowest rate from rural districts to county boroughs.

The extent of the fall in infant mortality during the past seventeen years, for which alone its distribution by administrative areas can be compared, but which cover much the greater part of the total fall since the commencement of the century (Table IV) has been very uniform in different classes of area and parts of the country, Table VIII showing the rate for 1927 to be in all cases about one-third below the corresponding average for 1911–15.

* The "North" includes the administrative counties and county boroughs corresponding to the registration counties in the eighth, ninth, and tenth "registration divisions" of the Registrar-General, *i.e.*, Lancashire, Cheshire, and Yorkshire, and counties north of them. The "South" includes England south of the Thames, with the whole of the County of London and the five south-western counties, forming the first, second, and fifth registration divisions. "Wales" corresponds to the eleventh or Welsh registration division and so includes Monmouthshire. All the rest of the country, corresponding to the third, fourth, sixth, and seventh registration divisions, is included in the Midland area. The counties in the four areas are as follows:—

North.	Midlands.		South.	Wales.
Cheshire.	Middlesex.	Gloucestershire.	London.	Monmouthshire.
Lancashire.	Hertfordshire.	Herefordshire.	Surrey.	Glamorganshire.
Yorks, West Riding	Buckinghamshire.	Shropshire.	Kent.	Carmarthenshire.
,, East Riding.	Oxfordshire.	Staffordshire.	Sussex, East.	Pembrokeshire.
,, North Riding.	Northamptonshire.	Worcestershire.	,, West.	Cardiganshire.
Durham.	Soke of Peterborough.	Warwickshire.	Southampton.	Brecknockshire.
Northumberland.	Huntingdonshire.	Leicestershire.	Isle of Wight	Radnorshire.
Cumberland.	Bedfordshire.	Rutlandshire.	Berkshire	Montgomeryshire.
Westmorland.	Cambridgeshire.	Lincolnshire,	Wiltshire.	Flintshire.
	Isle of Ely.	Parts of Holland.	Dorsetshire.	Denbighshire.
	Essex.	,, Kesteven.	Devonshire.	Merionethshire.
	Suffolk, East.	,, Lindsey.	Cornwall.	Caernarvonshire.
	,, West.	Nottinghamshire.	Somersetshire.	Anglesey.
	Norfolk.	Derbyshire.		

Table VII.—Proportionate Distribution of Infant Mortality, 1927. (Both Sexes).

	Mortality per cent. of that in England and Wales.					Mortality per cent. of that in England and Wales in the same class of Area.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	85	—	85	—	—	—	—	—
County Boroughs	124	106	81	117	114	109	93	71	103	100
Other Urban Districts.. ..	113	89	71	121	97	117	92	73	124	100
Rural Districts..	107	84	71	109	89	121	94	79	122	100
All Areas	119	94	78	116	100	—	—	—	—	—

Note.—These percentages are based on the rates in Table XI.

Table VIII.—Distribution of the Recent Fall of Infant Mortality in England and Wales.

Percentage Reduction of Rate for 1927 *compared with that for* 1911–15 *in each case.*

	North	*Midlands*	*South*	*Wales*	*England and Wales*
London	—	—	46	—	46
County Boroughs	34	39	41	32	35
Other Urban Districts ..	35	37	42	32	37
Rural Districts	32	30	33	25	31
All Areas	34	36	42	30	36

But despite the general similarity of these reductions it may be noted that for each class of area as for all areas jointly they are greatest in the South and smallest in Wales, also that the fall has been greater in the towns than in the rural districts, and greatest of all in London. The advantage of the South over the North thus tends to increase, but that of the country over the towns to diminish.

Table IX.—Infant Mortality in Urban Districts of all types per cent. of that in Rural Districts, 1911-27.

——	Under 4 weeks.	4 weeks–3 months.	3–6 Months.	6–9 Months.	9–12 Months.	Total under 1 year.
1911–1915 ..	104	133	145	149	157	128
1916–1920 ..	102	129	146	144	154	122
1921–1925 ..	102	124	147	151	160	122
1921	107	125	149	144	148	124
1922	102	122	140	155	174	122
1923	100	119	145	150	148	118
1924	103	131	151	150	170	125
1925	99	125	150	156	158	121
1926	103	121	147	147	157	121
1927	102	110	142	136	139	115

The progress of the latter change is recorded in Table IX, which shows how the excess of urban over rural infant mortality has fallen since 1911 (when it amounted to 32 per cent., being probably accentuated by epidemic diarrhœa), although it was lower, at 13 per cent., in 1919 than in 1927. Increase with age of this environmental influence is a constant feature of the table.

Details of the distribution of infant mortality by sex, age, cause, legitimacy, and locality will be found in Tables 8–14.

Distribution of the Mortality of various Stages of Infancy.—Tables X and XI continue the analysis of infant mortality by detail of age, initiated in 1905 with distinction of registration counties mainly urban and mainly rural in character, and expanded in 1917 to the degree of geographical distinction now in use, but curtailed in detail of age (after the first four weeks of life) in 1926. Distinctions of sex and legitimacy are shown only for England and Wales as a whole, but are available for each of the populations dealt with. Some of the facts and rates applying to the illegitimate will be found in Table 13.

Table X.—Deaths during various Portions of the first year of Life, 1927.

		Days.		Weeks.				Months.					
		0–1	1–7	0–1	1–2	2–3	3–4	Total under 4 weeks.	4 weeks to 3 m'nths	3–6	6–9	9–12	Total under one Year.
England and Wales: All Infants	M	3,961	4,382	8,343	1,586	1,324	925	12,178	4,142	3,690	3,293	3,003	26,306
	F	2,941	3,222	6,163	1,222	893	685	8,963	2,890	2,682	2,379	2,390	19,304
	P	6,902	7,604	14,506	2,808	2,217	1,610	21,141	7,032	6,372	5,672	5,393	45,610
Legitimate	M	3,567	4,105	7,672	1,483	1,222	851	11,228	3,800	3,385	3,104	2,822	24,339
	F	2,610	2,995	5,605	1,140	836	641	8,222	2,658	2,450	2,210	2,255	17,795
	P	6,177	7,100	13,277	2,623	2,058	1,492	19,450	6,458	5,835	5,314	5,077	42,134
Illegitimate	M	394	277	671	103	102	74	950	342	305	189	181	1,967
	F	331	227	558	82	57	44	741	232	232	169	135	1,509
	P	725	504	1,229	185	159	118	1,691	574	537	358	316	3,476
All Areas.	North ..	2,660	2,955	5,615	1,213	928	649	8,405	2,955	2,672	2,429	2,423	18,884
	Midlands	2,213	2,424	4,637	807	721	524	6,689	2,026	1,852	1,657	1,570	13,794
	South ..	1,494	1,549	3,043	552	382	303	4,280	1,392	1,316	1,147	999	9,134
	Wales ..	535	676	1,211	236	186	134	1,767	659	532	439	401	3,798
London		641	642	1,283	228	151	128	1,790	679	741	627	520	4,357
County Boroughs	England & Wales	2,502	2,802	5,304	1,106	882	620	7,912	2,828	2,721	2,414	2,381	18,256
	North ..	1,427	1,556	2,983	666	501	365	4,515	1,738	1,660	1,441	1,457	10,811
	Midlands	782	873	1,655	301	273	184	2,413	781	789	720	688	5,391
	South ..	183	234	417	79	56	44	596	179	150	164	145	1,234
	Wales ..	110	139	249	60	52	27	388	130	122	89	91	820
Other Urban Districts	England & Wales	2,285	2,592	4,877	972	798	525	7,172	2,188	1,932	1,726	1,645	14,663
	North ..	821	987	1,808	414	317	181	2,720	829	706	705	700	5,660
	Midlands	842	890	1,732	327	288	210	2,557	731	701	585	549	5,123
	South ..	360	369	729	125	110	71	1,035	310	263	196	185	1,989
	Wales ..	262	346	608	106	83	63	860	318	262	240	211	1,891
Rural Districts	England & Wales	1,474	1,568	3,042	502	386	337	4,267	1,337	978	905	847	8,334
	North ..	412	412	824	133	110	103	1,170	388	306	283	266	2,413
	Midlands	589	661	1,250	179	160	130	1,719	514	362	352	333	3,280
	South ..	310	304	614	120	65	60	859	224	162	160	149	1,554
	Wales ..	163	191	354	70	51	44	519	211	148	110	99	1,087
England and Wales	1st Quarter	1,748	2,257	4,005	908	803	602	6,318	2,643	2,553	2,571	2,617	16,702
	2nd ,,	1,658	1,857	3,515	680	526	360	5,081	1,520	1,287	1,148	1,171	10,207
	3rd ,,	1,769	1,561	3,330	547	378	273	4,528	1,176	1 056	768	714	8,242
	4th ,,	1,727	1,929	3,656	673	510	375	5,214	1,693	1,476	1,185	891	10,459

The features of Table XI closely resemble those of its predecessors. Like them it shows that decrease of mortality from North to South of England occurs in considerable degree in each class of area distinguished from the very first day of life. This applies also in 1927 to all classes of area at all later ages with one partial exception during the fourth week. Urban excess, on the other hand, is not present on the first day, when the highest rate recorded in 1927, as in nine of the ten preceding years, is that of the rural districts of the North, and when the London rate is, as always, very low. Excess for the county boroughs over the rural districts increases as age advances from 8 per cent. for the first four weeks to 23 in the second and third months and 57–65 per cent. at the three remaining ages distinguished.

The extent of these differences is better seen in Table XII, where the other rates in Table XI are shown as percentages of those for England and Wales at the same age.

The remarkable figures for London in this table may be noted. Usually its mortality is low in early infancy and tends to some excess later on, especially at 3–6 months, but in 1927 the London rate was below that for England and Wales at all ages distinguished

Table XI.—Infant Mortality at various Ages, 1927.

			Days.		Weeks.				Months.					Total under one year
			0–1	1–7	0–1	1–2	2–3	3–4	Total under 4 weeks	4 weeks to 3 m'nths	3–6	6–9	9–12	
England and Wales.	All Infants ..	M	11·9	13·1	25·0	4·8	4·0	2·8	36·5	12·4	11·1	9·9	9·0	78·8
		F	9·2	10·1	19·2	3·8	2·8	2·1	28·0	9·0	8·4	7·4	7·5	60·2
		P	10·6	11·6	22·2	4·3	3·4	2·5	32·3	10·7	9·7	8·7	8·2	69·7
	Legitimate ..	M	11·2	12·9	24·1	4·7	3·8	2·7	35·2	11·9	10·6	9·7	8·9	76·3
		F	8·5	9·8	18·3	3·7	2·7	2·1	26·8	8·7	8·0	7·2	7·4	58·1
		P	9·9	11·4	21·2	4·2	3·3	2·4	31·1	10·3	9·3	8·5	8·1	67·4
	Illegitimate ..	M	26·5	18·6	45·1	6·9	6·9	5·0	63·9	23·0	20·5	12·7	12·2	132·2
		F	23·4	16·0	39·4	5·8	4·0	3·1	52·4	16·4	16·4	11·9	9·5	106·7
		P	25·0	17·4	42·3	6·4	5·5	4·1	58·3	19·8	18·5	12·3	10·9	119·8
All Areas.	North		11·6	12·9	24·6	5·3	4·1	2·8	36·7	12·9	11·7	10·6	10·6	82·6
	Midlands ..		10·5	11·5	21·9	3·8	3·4	2·5	31·6	9·6	8·8	7·8	7·4	65·2
	South		8·9	9·3	18·2	3·3	2·3	1·8	25·6	8·3	7·9	6·9	6·0	54·7
	Wales		11·4	14·4	25·8	5·0	4·0	2·9	37·7	14·1	11·3	9·4	8·6	81·0
London..			8·7	8·8	17·5	3·1	2·1	1·7	24·4	9·3	10·1	8·6	7·1	59·5
County Boroughs	England and Wales ..		10·9	12·2	23·1	4·8	3·8	2·7	34·5	12·3	11·9	10·5	10·4	79·6
	North		11·4	12·5	23·9	5·3	4·0	2·9	36·2	13·9	13·3	11·5	11·7	86·7
	Midlands ..		10·8	12·0	22·8	4·1	3·8	2·5	33·2	10·7	10·9	9·9	9·5	74·1
	South		8·4	10·7	19·1	3·6	2·6	2·0	27·3	8·2	6·9	7·5	6·6	56·5
	Wales		11·0	13·8	24·8	6·0	5·2	2·7	38·6	12·9	12·2	8·9	9·1	81·7
Other Urban Districts	England and Wales ..		10·5	11·9	22·4	4·5	3·7	2·4	33·0	10·1	8·9	7·9	7·6	67·4
	North		11·4	13·8	25·2	5·8	4·4	2·5	37·9	11·6	9·8	9·8	9·8	78·9
	Midlands ..		10·2	10·8	20·9	4·0	3·5	2·5	30·9	8·8	8·5	7·1	6·6	62·0
	South		8·9	9·1	18·1	3·1	2·7	1·8	25·6	7·7	6·5	4·9	4·6	49·3
	Wales		11·6	15·4	27·0	4·7	3·7	2·8	38·2	14·1	11·6	10·7	9·4	84·0
Rural Districts	England and Wales ..		11·0	11·7	22·7	3·7	2·9	2·5	31·8	10·0	7·3	6·7	6·3	62·8
	North		12·8	12·8	25·6	4·1	3·4	3·2	36·3	12·0	9·5	8·8	8·3	74·9
	Midlands ..		10·5	11·8	22·3	3·2	2·8	2·3	30·6	9·2	6·4	6·3	5·9	58·4
	South		9·8	9·6	19·5	3·8	2·1	1·9	27·2	7·1	5·1	5·1	4·7	49·2
	Wales		11·4	13·3	24·7	4·9	3·6	3·1	36·2	14·7	10·3	7·7	6·9	75·8

in Table XII, except for a 4 per cent. excess at 3–6 months. For the first year of life as a whole mortality was 15 per cent. lower in London than in England and Wales, comparing more favourably with the latter than in any of the preceding sixteen years, in three of which, last in 1918, the London rate was in excess.

Although the mortality of early infancy is much less susceptible to environmental influence than that of the later months, and is being reduced much less than the latter by the advance of hygiene, the regional differences in Table XII are of a surprisingly constant nature, showing that in England a Southern environment is much more favourable to life, even from the day of birth, than a Northern. During the years 1917–27 the mortality of the first twenty-four hours of life has been in constant excess in the North of England in all classes of area, the extent of the excess over the rate for England and Wales as a whole varying in different years from 6 to 12 per cent. for the county boroughs, from 7 to 15 per cent. for the urban districts, from 10 to 32 per cent. for the rural districts, and from 9 to 14 per cent. for all classes of area jointly. During the same eleven years the Southern rates have been almost as constantly below the general average, the difference varying for the county boroughs from insignificance to 21 per cent., for the urban districts from 3 to 17 per cent., for the rural districts from 12 per cent. downwards (with an excess of 1 per cent. in 1917), and for all classes of area jointly from 6 to 16 per

able XII.—Infant Mortality at various Ages, in different Classes of Area and Sections of the Country, per cent. of that of all Infants of the same Age in England and Wales, 1927.

	Days.		Weeks.				Months.					Total under 1 year
	0–1	1–7	0–1	1–2	2–3	3–4	Total under 4 weeks.	4 weeks to 3 months	3–6	6–9	9–12	
England and Wales P	100	100	100	100	100	100	100	100	100	00	100	100
England and Wales M	112	113	113	112	118	112	113	116	114	114	110	113
England and Wales F	87	87	86	88	82	84	87	84	87	85	91	86
All Areas												
North	109	111	111	123	121	112	114	121	121	122	129	119
Midlands	99	99	99	88	100	100	98	90	91	90	90	94
South	84	80	82	77	68	72	79	78	81	79	73	78
Wales	108	124	116	116	118	116	117	132	116	108	105	116
London	82	76	79	72	62	68	76	87	104	99	87	85
County Boroughs—												
England and Wales ..	103	105	104	112	112	108	107	115	123	121	127	114
North	108	108	108	123	118	116	112	130	137	132	143	124
Midlands	102	103	103	95	112	100	103	100	112	114	116	106
South	79	92	86	84	76	80	85	77	71	86	80	81
Wales	104	119	112	140	153	108	120	121	126	102	111	117
Other Urban Districts—												
England and Wales..	99	103	101	105	109	96	102	94	92	91	93	97
North	108	119	114	135	129	100	117	108	101	113	120	113
Midlands	96	93	94	93	103	100	96	82	88	82	80	89
South	84	78	82	72	79	72	79	72	67	56	56	71
Wales..	109	133	122	109	109	112	118	132	120	123	115	121
Rural Districts— ..												
England and Wales..	104	101	102	86	85	100	98	93	75	77	77	89
North	121	110	115	95	100	128	112	112	98	101	101	107
Midlands	99	102	100	74	82	92	95	86	66	72	72	84
South	92	83	88	88	62	76	84	66	53	59	57	71
Wales	108	115	111	114	106	124	112	137	106	89	84	109

cent. For the first four weeks of life as a whole the difference is even greater and more constant, no exception to the rule of Northern excess and Southern advantage occurring in any year for any class of area.

Causes of Infant Mortality.—The causes of infant mortality are set forth in Tables 8–12, which compare the records of 1927 with those of previous years, and show the incidence of mortality from each cause upon infants distinguished by sex, age, legitimacy, class of area, and section of the country. From these tables has been prepared the comparison in Table XIII between the mortality from the chief causes distinguished at various ages in 1927, 1926, and 1922–26.

Table XIII.—England and Wales : Comparison of Infant Mortality Rates in 1927 with those of recently preceding years.

	Under 4 weeks.	4 weeks to 3 months.	3–6 months.	6–9 months.	9–12 months.	Under 1 year.
	Increase or Decrease of Mortality in 1927, per cent. of that in 1926.					
	+ 1	− 7	− 6	+ 0	+ 7	− 1
	Increase or Decrease of Mortality in 1927, per cent. of that in 1922–26.					
	− 1	− 12	− 9	− 6	− 4	− 5
	Increase or Decrease from various Causes, as compared with 1922–26.					
Measles (7)	− 0·01	—	− 0·02	− 0·07	− 0·12	− 0·21
Whooping cough (9)	− 0·02	− 0·18	− 0·08	− 0·14	− 0·12	− 0·54
Influenza (11)	+ 0·03	+ 0·06	+ 0·11	+ 0·14	+ 0·12	+ 0·48
Tuberculosis, all forms (31–37)	—	− 0·03	− 0·06	− 0·09	− 0·06	− 0·23
Convulsions (80)	− 0·41	− 0·22	− 0·20	− 0·17	− 0·16	− 1·16
Bronchitis and pneumonia (99–101)	− 0·21	− 0·34	+ 0·04	+ 0·09	+ 0·26	− 0·17
Diarrhœa and enteritis (113)	+ 0·01	− 0·25	− 0·35	− 0·24	− 0·21	− 1·04
Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	− 0·11	− 0·21	− 0·22	− 0·04	− 0·07	− 0·66
Congenital defects (malformations and atelectasis) (159, 162 : 2).	*+ 0·37*	*+ 0·06*	*+ 0·01*	*+ 0·02*	*− 0·01*	*+ 0·44*
Congenital debility, sclerema and icterus (160).	*− 0·89*	*− 0·37*	*− 0·21*	*− 0·05*	*− 0·06*	*− 1·58*
Premature birth (161 : 1)	*+ 0·41*	*+ 0·10*	*− 0·02*	—	—	*+ 0·48*
Suffocation—in bed or not stated how (180 part).	+ 0·03	+ 0·02	− 0·01	—	—	+ 0·03
Other causes	+ 0·34	− 0·25	− 0·19	− 0·04	− 0·03	− 0·17
All causes	− 0·34	− 1·40	− 0·99	− 0·56	− 0·38	− 3·67
	Percentage Increase or Decrease as compared with 1922–26.					
Measles (7)	−100	—	− 18	− 16	− 14	− 15
Whooping cough (9)	− 25	− 32	− 12	− 18	− 14	− 18
Influenza (11)	+ 43	+ 46	+ 65	+ 70	+ 60	+ 63
Tuberculosis, all forms (31–37)	—	− 27	− 19	− 21	− 13	− 17
Convulsions (80)	− 21	− 27	− 34	− 40	− 48	− 28
Bronchitis and pneumonia (99–101)	− 15	− 10	+ 1	+ 2	+ 7	− 1
Diarrhœa and enteritis (113)	+ 1	− 15	− 16	− 18	− 24	− 15
Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	− 0	− 5	− 16	− 9	− 28	− 2
Congenital defects (malformations and atelectasis) (159, 162 : 2).	*+ 9*	*+ 6*	*+ 2*	*+ 11*	*− 9*	*+ 7*
Congenital debility, sclerema and icterus (160)	*− 23*	*− 25*	*− 27*	*− 21*	*− 46*	*− 25*
Premature birth (161 : 1)	*+ 3*	*+ 7*	*− 11*	—	—	*+ 3*
Suffocation—in bed or not stated how (180 part).	+ 12	+ 11	− 10	—	—	+ 5
Other causes	+ 9	− 17	− 13	− 3	− 3	− 2
All causes	− 1	− 12	− 9	− 6	− 4	− 5

Note.—The percentages in this table are based on rates per 100,000 births, and differ on this account from those derivable from Table V.

The fall of 5 per cent. as compared with the preceding quinquennium is more than accounted for by reductions under three headings of great former, but now rapidly decreasing, importance —congenital debility (and sclerema), convulsions, and diarrhœa. Table 9 shows how rapidly the mortality ascribed to each of these causes is at present falling, the rates in 1927 for the two first mentioned being less than half those of ten years earlier. In their case it is evident that the change is very largely one in manner of certification, such returns being less and less regarded as adequate statements of the cause of infantile deaths. A change of this nature implies corresponding increase of mortality under other headings, but the distribution of this increase cannot be stated. It may help to account, by transfer from debility, for the increase of mortality ascribed to premature birth, under which cause, together with influenza and congenital defects, the only significant increases in the table are found. But the increase from premature birth must be partly due to the fact that the 1926 figure, 17·49, happened to be the lowest recorded during the present century. This rate is a very constant one, its highest level during the same period being 21·68 in 1919. The increase of the influenza rate is obviously accounted for by the prevalence of that disease in fatal form during the first three months of the year, but that from congenital defects—almost entirely due to malformations, the rate from atelectasis remaining very constant—represents a tendency which has been observable for many years. Mortality ascribed to malformations has increased from 3·66 per 1,000 live births in 1911 to 4·77, the highest rate yet reached, in 1927. Prior to 1911 this heading included icterus neonatorum and diseases of the umbilicus. The conjoint mortality from these three causes has increased during the present century from 3·86, the lowest rate of the series, in 1901, to 5·49 the highest, in 1927.

But diseases of the umbilicus form one of no less than ten out of the 25 causes dealt with in Table 9 mortality from which was lower in 1927 than in any of the ten preceding years. The other nine are tuberculous peritonitis, etc, miscellaneous forms of tuberculosis, syphilis, meningitis, convulsions, bronchitis, miscellaneous respiratory diseases excluding bronchitis and pneumonia, inflammation of the stomach, and congenital debility. Of these ten all but syphilis and diseases of the umbilicus figured in a similar list also of ten causes, a year ago.

Many of these forms of return for infant deaths are in fact rapidly passing into disuse at the present time. This applies to tuberculosis in general, meningitis, convulsions, bronchitis, inflammation of the stomach, and congenital debility. The present rate of 1·10 for tuberculous diseases compares with 2·75 ten years earlier and 6·41 in 1901, though till near the close of the nineteenth century there had been little change for many years. So far as this reduction represents the facts it is presumably attributable to increased knowledge of the necessity and

means of avoiding infection, but much of it may be due to increased caution in the diagnosis of infantile tuberculosis. The rate for tuberculous meningitis has never been lower than in 1927. It fell rapidly from 1·47 in 1908 (1·56 in 1901) to 0·67 in 1920, but is now almost stationary. That for abdominal tuberculosis, on the other hand, continues to fall very rapidly, being now half that of seven years ago, and only 5 per cent. of that (3·20) in 1901. Meningitis not returned as tuberculous has fallen steadily from 1·56 in 1911 to 0·47 in 1927, a reduction of 70 per cent. in seventeen years.

Comparable in rapidity of fall with tuberculosis are convulsions and congenital debility, which at the beginning of this century ranked amongst the most important causes, numerically, to which infant mortality was attributed. But since 1901 the rate for the former has fallen by 82 per cent., and that for the latter by 79. In these cases there can be little doubt that the change is due to substitution of more definite forms of return.

The reduction of the bronchitis rate from 8·43 ten years ago and 12·58 in 1901 to 4·22 in 1927 presumably represents to some extent transfer to pneumonia, the rate for which is about stationary. But there is an appreciable fall for respiratory disease in general, from 20·52 in 1917 to 16·17 in 1927, which may be largely due to that for the common infectious diseases (Table 9), from 5·73 to 3·88. This latter is almost entirely accounted for by measles, infant mortality from which has fallen by 56 per cent. in the last ten years, though it has never since been so low as in 1921.

Table XIV, which contrasts the mortality of male with that of female and of legitimate with that of illegitimate infants, shows that the excess in mortality of males, which has greatly increased along with and in consequence of (Review for 1921) the fall in infant mortality during the present century, was 31 per cent. in 1927.

From 1841–45 to 1896–1900, while infant mortality remained fairly constant at about 150 deaths per 1,000 live births, the ratio of male excess was also correspondingly constant at about 20–22 per cent. But when infant mortality began to fall, in the early years of the present century, the ratio of male excess began at once to rise, reaching 28 per cent. in 1916–20. (Review for 1921, Diag. 2). Since then the further fall of mortality from 90 in 1916–20 to 76 in 1921–25 (Table I) has been accompanied by further increase of male excess to 30 per cent. in 1921–25, that for 1927, 31 per cent., being the highest yet reached, though equalled in 1922.

This male excess is shared, as usual, by all the causes distinguished in Table XIV except whooping cough, its extent ranging from 19 per cent. for measles to 46 for congenital debility.

Male excess was, as usual, greater for legitimate than for illegitimate infants, and excess for the illegitimate over the legitimate greater for females. Both these related rules have applied in every year from 1906 onwards except in 1926, when

Table XIV.—England and Wales : Infant Mortality by Sex and Legitimacy, 1927.

		Deaths per 1,000 Live Births.						Mortality per cent.				
		All Infants.		Legitimate Infants.		Illegitimate Infants.		Male of Female Infants.			Illegitimate of Legitimate Infants.	
		Male.	Female.	Male.	Female.	Male.	Female.	All Infants.	Legitimate.	Illegitimate	Male.	Female.
All causes.	Under four weeks	36·49	27·97	35·21	26·84	63·87	52·37	130	131	122	181	195
	4 weeks—3 months	12·41	9·02	11·92	8·68	22·99	16·40	138	137	140	193	189
	3–6 months	11·06	8·37	10·62	8·00	20·50	16·40	132	133	125	193	205
	6–9 ,,	9·87	7·42	9·73	7·22	12·71	11·95	133	135	106	131	166
	9–12 ,,	9·00	7·46	8·85	7·36	12·17	9·54	121	120	128	138	130
	Total under 1 year	78·82	60·24	76·33	58·10	132·24	106·66	131	131	124	173	184
All ages under one year.	Measles (7)	1·31	1·10	1·29	1·06	1·82	2·05	119	122	89	141	193
	Whooping Cough (9)	2·31	2·54	2·32	2·55	2·02	2·26	91	91	89	87	89
	Tuberculosis, all forms (31–37)	1·22	0·97	1·19	0·93	1·75	1·84	126	128	95	147	198
	Syphilis (38)	0·86	0·68	0·76	0·58	3·09	2·90	126	131	107	407	500
	Convulsions (80)	3·35	2·47	3·31	2·45	4·37	2·90	136	135	151	132	118
	Bronchitis and pneumonia (99–101).	18·32	13·44	18·03	13·27	24·27	17·25	136	136	141	135	130
	Diarrhœa and enteritis (113)	6·62	4·77	6·27	4·49	14·12	10·88	139	140	130	225	242
	Developmental and wasting diseases (159, 160, 161 : 1, 162 : 2).	33·41	25·87	32·52	25·03	52·37	44·18	129	130	119	161	177
	Congenital defects (malformations and atelectasis) (159, 162 : 2).	*7·02*	*5·60*	*6·95*	*5·52*	*8·41*	*7·57*	*125*	*126*	*111*	*121*	*137*
	Congenital debility, sclerema and icterus (160)	*5·72*	*3·93*	*5·38*	*3·71*	*12·97*	*8·55*	*146*	*145*	*152*	*241*	*230*
	Premature birth (161 : 1)	*20·67*	*16·33*	*20·19*	*15·79*	*30·99*	*28·06*	*127*	*128*	*110*	*153*	*178*
	Other causes	11·42	8·40	10·64	7·74	28·43	22·40	136	137	127	267	289
	All causes	78·82	60·24	76·33	58·10	132·24	106·66	131	131	124	173	184

both were broken. It is natural that when, as normally, the illegitimate status reacts more severely on the female (84 per cent. excess over the legitimate in 1927) than on the male (73 per cent. excess) the normal advantage of the female should be lessened. In each of the last 22 years, for which the comparison can be made, except 1926, illegitimacy has increased the mortality of female more than that of male infants, and in each, with the same single exception, male excess has, as in 1927, been greater for the mortality of the legitimate than the illegitimate. The total excess for the illegitimate of both sexes, 78 per cent. in 1927, was considerably lower than for any other year from 1906 onwards. Since the war this excess has tended to fall from a maximum then attained for each sex, so its decline in 1927, though of exceptional extent, is in continuation of a movement which has been going on since the specially adverse effect of war time conditions upon the illegitimate infant ceased to operate. The following percentage excesses for the mortality of the illegitimate display in outline its fluctuations during recent years :—

	1906–10	1911–15	1916–20	1921–25	1926	1927
Males	196	195	206	187	194	173
Females	203	206	218	199	189	184
Both sexes	199	200	211	192	192	178

There can be little doubt as to the adverse effects of war conditions on the illegitimate, who were relatively more numerous in

1916–20 than in any of the other above periods, and it may perhaps prove that the lowered ratio for 1927 represents a continuing effect of measures now being taken for their protection.

Excess for the illegitimate is, as usual, very much greater for syphilis than for any other cause distinguished in the table.

Distribution throughout the country of Infant Mortality from various causes.—Table XV, which is derived from Table 12, furnishes an analysis by cause of the differences in total mortality

Table XV.—Comparison of Infant Mortality from the Principal Causes in different Classes of Area and Sections of the Country, 1927.

—	Measles (7).	Whooping Cough (9).	Tuberculosis, all forms (31–37).	Syphilis (38).	Convulsions (80).	Bronchitis and Pneumonia (99–101).	Diarrhœa and Enteritis (113).	Congenital Malformations (159).	Congenital Debility & Sclerema (160 : 1).	Premature Birth (161 : 1).	Injury at Birth (161 : 2).	Suffocation—in bed, or not stated how (180 pt.).	Other Causes.	All Causes.
Differences from Rates for England and Wales per 100,000 Live Births.														
All Areas—														
North	+102	− 18	+15	+ 29	+111	+421	+167	+ 40	+ 89	+211	+24	− 6	+100	+ 1,285
Midlands	− 51	+ 28	+ 4	− 13	− 86	−173	−112	− 10	− 23	+ 49	−23	+ 3	− 45	− 452
South	− 74	− 1	−19	− 23	−145	−452	− 95	− 66	−128	−406	− 2	+ 6	− 98	− 1,503
Wales	− 8	− 33	−27	+ 4	+367	+339	+ 27	+ 86	+125	+187	− 6	− 9	+ 79	+ 1,131
London	− 58	+ 66	−10	− 18	−173	−244	+125	− 74	−157	−461	+16	+14	− 51	− 1,025
County Boroughs—														
England and Wales	+ 86	− 4	+19	+ 33	+ 24	+335	+232	+ 7	+ 16	+173	+ 3	+ 9	+ 55	+ 988
North	+156	− 11	+18	+ 43	+101	+571	+367	+ 15	+ 45	+222	+31	—	+135	+ 1,693
Midlands	+ 8	+ 48	+36	+ 15	− 83	+136	+129	+ 4	− 13	+197	−35	+20	− 20	+ 442
South	− 25	− 95	−23	+ 5	−100	−398	−160	− 60	− 16	−276	− 6	+32	−201	− 1,323
Wales	+ 18	− 83	−10	+102	+116	+449	+155	+ 71	− 55	+366	−46	—	+112	+ 1,195
Other Urban Districts—														
England and Wales	− 32	− 19	− 9	− 16	+ 6	− 39	−129	+ 12	+ 25	− 3	+ 2	− 7	− 15	− 224
North	+ 56	− 18	+ 8	+ 21	+100	+310	− 26	+ 86	+147	+179	+16	− 7	+ 45	+ 917
Midlands	− 76	− 16	− 5	− 32	−102	−225	−187	− 38	− 23	+ 4	− 6	− 33	− 776	
South	−116	− 56	−41	− 37	−151	−570	−270	− 76	−148	−411	−12	−15	−143	− 2,046
Wales	+ 3	+ 33	−26	− 33	+383	+490	+ 6	+118	+177	+224	−21	+ 2	+ 73	+ 1,429
Rural Districts—														
England and Wales	− 64	+ 1	−12	− 20	+ 45	−377	−258	+ 9	+ 17	− 41	−17	−12	− 35	− 764
North	− 3	− 43	+14	− 9	+177	+ 90	−181	+ 35	+133	+244	+14	−26	+ 74	+ 519
Midlands	− 91	+ 66	−23	− 22	− 68	−498	−314	+ 11	− 13	− 37	−46	− 5	− 92	− 1,132
South	− 89	− 23	− 9	− 36	−105	−820	−341	− 40	−116	−359	−27	− 3	− 78	− 2,046
Wales	− 44	−102	−40	− 7	+518	+ 27	− 27	+ 47	+170	+ 2	+45	−32	+ 61	+ 618
Rates per cent. of those for England and Wales.														
All Areas—	184	93	114	138	138	126	129	108	121	111	113	90	110	118
North	58	112	104	83	71	89	80	98	95	103	88	105	95	94
Midlands	39	100	83	70	50	72	83	86	70	78	99	110	90	78
South	93	86	75	105	226	121	105	118	130	110	97	85	108	116
Wales														
London	52	127	91	77	41	85	122	84	63	75	109	123	95	85
County Boroughs—														
England and Wales	171	98	117	143	108	121	141	101	104	109	102	115	106	114
North	229	95	116	156	135	136	164	103	111	112	117	100	114	124
Midlands	107	120	133	119	72	109	123	101	97	111	81	133	98	106
South	79	61	79	106	66	75	72	87	96	85	97	153	79	81
Wales	115	66	91	232	140	128	127	115	87	120	75	100	112	117
Other Urban Districts—														
England and Wales	74	92	92	79	102	98	77	103	106	100	102	88	98	97
North	146	93	107	127	134	119	95	118	135	110	109	88	105	113
Midlands	37	93	95	58	65	86	67	92	91	99	102	90	97	89
South	4	77	63	52	48	64	53	84	65	78	94	75	85	71
Wales	102	114	76	57	231	131	101	125	142	112	89	103	108	120
Rural Districts—														
England and Wales	47	100	89	74	115	76	55	102	104	98	91	80	96	89
North	98	82	113	88	161	106	68	107	131	113	108	57	108	107
Midlands	25	127	79	71	77	69	45	102	97	98	75	92	90	84
South	26	90	92	53	64	49	40	92	73	81	85	95	92	71
Wales	64	58	64	91	277	102	95	110	140	100	124	47	106	109

under one year of age shown in Tables V and VI. Table 12 having been first prepared for 1917, the results for ten years are available for comparison.

The greatest departures from the average mortality of the whole country in Table 12 are furnished by the county boroughs of the North, with excesses under almost every cause distinguished, aggregating to 16·93 deaths per 1,000 live births, and by the urban and rural districts of the South, with comparatively favourable experience under every head distinguished, and aggregating in both cases to 20·46 per 1,000 live births.

As usual, each one of three causes contributes more than any other to these differences, the three being bronchitis and pneumonia, diarrhœa, and premature birth. This was the case also in each of the five preceding years, so the predominant influence of these causes in determining local variations of infant mortality is evident. Jointly they account in 1927 for 69 per cent. of the divergence in the county boroughs of the North above the mean, and for 61 per cent. of that in the urban and 74 per cent. of that in the rural districts of the South below it. Much the most potent influence is that of bronchitis and pneumonia, which is always of chief importance, second place being taken sometimes by diarrhœa, as for the Northern county boroughs in 1927, and sometimes by premature birth, as for the Southern urban and rural districts in 1927.

Mortality from bronchitis and pneumonia (considered jointly because of evidence of interchangeability between these forms of return) is very greatly and consistently in excess in the North of England, particularly in its great towns. During the last ten years the Northern excess over the general average has varied only between 24 and 41 per cent., while in the same period excess for the Northern county boroughs has ranged from 31 to 57 per cent. Urbanization also is a powerful factor in promoting this, like most other forms of infant mortality. During each of the eleven years 1917–27 excess for the county boroughs has been recorded, varying from 11 to 28 per cent., while the rate for the rural districts has been as constantly below the mean, the difference ranging from 14 to 35 per cent. In the South this difference generally amounts, as in 1927, to rather more than 50 per cent.

The constancy of both these features of the distribution of respiratory mortality in infancy—increase from South to North and from the country to the great towns—is remarkable. The eleven years for which comparison can be made present no exception in any class of area to the rule of increase from South to North, nor, for the country at large, to that of increase from country to town. Both these rules of distribution are, of course, consistent with each of the explanations usually advanced for these differences, varying severity of climate and smoke pollution. But smoke pollution, acting alone, seems to afford a less satisfactory explanation than geographical situation. For instance, the county borough rate is constantly, as in 1927, much higher

in the North than in the Midlands, though the great towns of both are mainly industrial. And again, as in 1927, excess is frequently experienced by even the rural districts of the North, which are doubtless more smoke polluted than corresponding areas elsewhere, but presumably to a less extent than the average for town and country in general.

But, although the influence of either climate or smoke pollution upon premature birth is much less obvious than on respiratory disease, precisely the same type of distribution applies to mortality from this cause, though the variations are less, and the influence of geographical situation predominant, exceptions to the rule of increase with urbanization (as in both the North and South in 1927) being fairly common. The chief exception, a very notable one, to this latter rule is provided by London, the rate for which is consistently below average, the difference reaching a maximum, for the years 1917–27, of 25 per cent. in 1927. The London rate for this year is indeed the lowest in Table 12, as was the case also in 1924 and 1925. It seems likely that if the cause of this could be established it might throw light upon the means of reducing mortality from premature birth elsewhere.

London's position in regard to diarrhœa is much less favourable, excess, varying from 12 to 69 per cent., applying to each of the eleven years compared. In all parts of the country this disease is most fatal to town infants, exceptions to the rule of increase with urbanization being very few during the eleven years. But there is no exception in these years to the rule of increase from South to North in each class of area. In this case climatic advantage might be thought to be on the side of the cooler summers of the North, but other factors evidently outweigh this. For many years this mortality was lower in Scotland than in England and Wales, presumably because of climatic differences, but of recent years the rates in the two countries have been about equal.

Mortality at Ages over One Year.

Table XVI gives the crude and standardized death-rates at all ages for sexes and persons for the whole country, as well as the mortality per million living at different ages, for 1926 and 1927, and, in order to provide means of comparison with the most recent pre-war experience, for 1911–14.

At all ages under 75 the mortality of each sex is lower than it was before the war, but at all except 5–10 it is higher than in 1926. At all ages jointly the crude rate has fallen by 11·6 per cent. below the pre-war figure, but when allowance is made by standardization for increased age of the population the extent of the fall is increased to 21·3 per cent. It is much the same for the two sexes. Of the two standards used in the table the English (A) shows a rather greater fall than the International (B), because it gives less weight to the higher ages, at which reduction has been least. This difference between the two would be greater were it not that the English standard gives less weight also to mortality at 0–5, at which the

fall has been greatest. The extent of the fall at the various ages distinguished can be better appreciated from Table XVII, in which the mortality in 1926 and 1927 of each sex and age-group is shown as a proportion of the corresponding rate for 1911–14.

Table XVI.—England and Wales: Mortality from all Causes per Million Population, 1911–14, 1926, and 1927. (Total deaths registered.)

	Males.			Females.			Persons.		
	1911–14.	1926.	1927.	1911–14.	1926.	1927.	1911–14.	1926.	1927.
All Ages:									
Crude	14,890	12,384	13,115	13,065	10,911	11,618	13,948	11,616	12,334
Standardized A	14,841	11,236	11,810	12,260	9,099	9,552	13,475	10,096	10,607
Standardized B	15,911	12,218	12,839	13,713	10,437	10,993	14,779	11,290	11,878
0–..	40,588	23,343	23,729	33,917	18,767	18,898	37,270	21,083	21,340
5–..	3,304	2,548	2,437	3,255	2,304	2,226	3,279	2,427	2,332
10–..	1,972	1,521	1,572	2,055	1,464	1,526	2,014	1,493	1,549
15–..	2,942	2,467	2,520	2,683	2,380	2,423	2,811	2,424	2,471
20–..	3,721	3,093	3,270	3,200	2,934	2,963	3,450	3,012	3,115
25–..	4,912	3,679	3,800	4,057	3,315	3,443	4,464	3,481	3,607
35–..	8,033	6,089	6,588	6,437	4,637	4,856	7,205	5,305	5,649
45–..	14,808	11,053	11,894	11,363	8.191	8,706	13,018	9,547	10,210
55–..	29,767	23,312	24,548	22,471	17,410	18,274	25,905	20.215	21,253
65–..	62,844	56,843	61,144	50,722	43,893	47,435	56,124	49,719	53,606
75–..	135,490	132,709	141,745	114,126	107,975	118,452	122,694	117,717	127,671
85 and upwards	271,337	282,020	309,043	237,360	254,177	285,796	249,201	263,449	293,552

A. English Standard (Population of England and Wales, 1901). B. International Standard. (*See* page 1.)

The fall is much greater at 0–5 than at any later period of life, amounting in 1927 to about 42 per cent. for males and 44 per cent. for females. Thereafter it very rapidly decreases with advancing age up to early maturity, reaching a minimum of 12 per cent. for males at 20–25 and of 7 per cent. for females at the same age.

Table XVII.—England and Wales: Mortality at various ages from all causes in 1926 and in 1927 per cent. of that for the same sex and age in 1911–14.

	Males.		*Females.*		*Both Sexes.*	
	1926.	1927.	1926.	1927.	1926.	1927.
All Ages:						
Crude	83·2	88·1	83·5	88·9	83·3	88·4
Standardized A	75·7	79·6	74·2	77·9	74·9	78·7
Standardized B	76·8	80·7	76·1	80·2	76·4	80·4
0— ..	58	58	55	56	57	57
5— ..	77	74	71	68	74	71
10— ..	77	80	71	74	74	77
15— ..	84	86	89	90	86	88
20— ..	83	88	92	93	87	90
25— ..	75	77	82	85	78	81
35— ..	76	82	72	75	74	78
45— ..	75	80	72	77	73	78
55— ..	78	82	77	81	78	82
65— ..	90	97	87	94	89	96
75— ..	98	105	95	104	96	104
85— ..	104	114	107	120	106	118

After this age another period of increasing decline sets in, which reaches its maximum of 23 per cent. for males at 25–35 and of 25 for females at 35–45. Thereafter the decrease recorded becomes less for each sex, till at ages over 75 it disappears altogether. The relative smallness of the decline for females at 20–25 is mainly due to tuberculosis. At this age tuberculosis mortality has declined by 17 per cent. for males and increased by 3 per cent. for females, whereas mortality from other causes has decreased by 17 per cent. for both males and females. Even from causes other than tubercle however the decline in early adult life (15–25) is less than in middle age or in childhood.

The great decline in early life is a feature common to the experience, during the period dealt with, of many countries; and that in later middle age is from a mortality before the war in this country which was high relatively to that of most other civilized states. But if these facts to some extent discount the significance of the falls noted in early childhood and later middle age, the smallness of the fall in early adult life is also partly explained by the fact that before the war English mortality at these ages was low compared with that of most other countries. As pointed out in previous Reviews, the large falls recorded for males aged 25–55 show that the hardships of war have not prevented the survivors of the men who served in it from sharing to the full in the reduction of mortality which has since occurred.

Of the two sexes, males suffered the higher mortality at every age. Table 3 also shows definite excess of mortality for males in 1927 at each age distinguished This has never occurred before, though in four previous years, 1915, 1923, 1925 and 1926, there was in fact some excess for males at each age, even if too slight for record in Table 3. Excess for males at all stages of life, only recorded in two previous years, 1915 and 1923, has now, therefore, occurred in each of the last three years 1925–27.

Mortality at age 0–5 (Table XVI) is very imperfectly measured during recent years by the crude rate for all these ages jointly. When the birth-rate is falling fast, as during the war and since 1920, the proportion to the whole group aged 0–5 of infants under one year of age is abnormally low, and the crude death-rate of the group tends to fall merely because of the small effect of the high mortality of these infants in consequence of their small numbers. When the birth-rate rises, the opposite effect is produced, and allowance by standardization for these changes in the composition of the population at risk increases the death-rate in the first case, and reduces it in the second.

Table XVIII measures the effect of this influence of changes in the birth-rate upon the mortality of early life immediately before the war and from 1917 onwards. It shows that in all these years the fall of the birth-rate has caused some under-statement of mortality at 0–5 for each sex except during the three years 1920–22, when its temporary rise after the war reversed the process. The fall of 43 per cent. shown for this mortality in

Table XVII is seen to be slightly overstated from this cause, being reduced to 40 per cent. when allowance is made for its influence. But this influence, which was greatest during the years 1918–21, in the first of which it converted an actual increase of mortality by 7 per cent. (as compared with 1911–14) into an apparent decrease by 2 per cent., has now been reduced to much smaller dimensions, and will presumably require less consideration in future years unless the course of the birth-rate is again suddenly changed. The crude rate, as recorded in Table 3, now again provides a measure of the movement of this mortality sufficiently accurate for practical purposes. It shows that recent rates are quite unprecedented, no quinquennium before 1906–10 returning less than double the rate for 1921–25.

Table XVIII.—England and Wales: Comparison of Crude and Standardized Death-Rates per 1,000 living at Age 0–5, 1911–14 and 1917–27.

——	Males.		Females.		Both Sexes.	
	Crude.	Standardized.	Crude.	Standardized.	Crude.	Standardized.
1911–14 ..	40·6	40·8	33·9	34·2	37·3	37·5
1917	31·8	34·3	26·3	28·4	29·1	31·4
1918	38·9	43·1	34·1	37·5	36·5	40·3
1919	32·8	36·6	26·4	29·5	29·6	33·1
1920	36·2	31·8	28·8	26·0	32·5	29·0
1921	32·3	29·2	25·8	23·6	29·1	26·4
1922	30·2	28·5	24·5	23·1	27·4	25·8
1923	24·3	25·0	19·6	20·1	22·0	22·5
1924	25·1	27·3	20·2	21·8	22·6	24·6
1925	25·3	27·1	20·7	22·1	23·0	24·6
1926	23·3	24·9	18·8	20·0	21·1	22·4
1927	23·7	25·2	18·9	20·0	21·3	22·6

Mortality at 1–5.—The causes of the great decline in mortality at 0–5 recorded in Table XVII have been for the most part already dealt with, as 65 per cent. of deaths under 5 in 1927 occurred in the first year of life. But, as shown by Table XIX, mortality is falling as rapidly of late in the years immediately following infancy as in the first year of life itself, so the features of the changes in progress at these ages also seem to call for some consideration.

Table XIX shows the extent to which each of the years 1–5 has shared with the first year of life in the fall, since the most recent pre-war experience, of 43 per cent. at all ages 0–5 jointly. This fall is seen to be a little greater for the second than for the first year, and only slightly less for the next three (2–5), but the slight fall for the first year below the rate for 1926 is not shared by the next four, all of which record an increase, amounting in the aggregate to about 9 per cent., the causes of which will be considered in connexion with Table XXI.

Table XIX.—England and Wales.—Mortality per 1,000 living (both sexes) in each of the first Five Years of Life, 1911–14, 1926, and 1927.

Year of Life.	1911–14.	1926.	1927.	1927 per cent. of	
				1911–14.	1926.
0–1	118·16	73·30	71·24	60·3	97·2
1–2	34·06	18·38	19·70	57·8	107·2
2–3	13·68	7·52	8·56	62·6	113·8
3–4	8·32	4·80	5·17	62·1	107·7
4–5	6·14	3·56	3·85	62·7	108·1
0–5 Crude ..	37·27	21·08	21·34	57·3	101·2
0–5 Stand ..	37·52	22·42	22·57	60·1	100·7
1–5 Crude ..	15·62	8·40	9·22	59·0	109·8
1–5 Stand ..	15·54	8·56	9·31	59·9	108·8

The distribution throughout the country of mortality at these ages is shown in Table XX, which may be compared with Tables VI and VII (Infant Mortality). The greatest excess over the general average recorded in Table XX is one of 52 per cent. for the county boroughs of the North at 1-2 years, while the most favourable position occupied by any of the populations compared is that of 47 per cent. below the general average by the rural districts of the South at the same age.

Table XX.—Distribution of Mortality in Early Childhood, 1927.

	1—2 years.					2—5 years. (Mean Annual Mortality.)				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
Deaths per 1,000 Living (Both Sexes).										
London	—	—	15·90	—	15·90	—	—	4·81	—	4·81
County Boroughs	29·86	22·17	14·98	21·49	25·61	8·05	6·03	5·26	6·49	7·06
Other Urban Districts ..	23·81	15·09	11·68	20·57	18·00	7·15	5·24	3·77	5·73	5·66
Rural Districts	19·42	13·97	10·38	15·43	14·62	5·95	4·42	3·41	5·10	4·62
All Areas	26·44	17·22	13·76	19·25	19·70	7·47	5·29	4·38	5·71	5·83
Mortality per cent. of that in England and Wales.										
London	—	—	81	—	81	—	—	83	—	83
County Boroughs	152	113	76	109	130	138	103	90	111	121
Other Urban Districts ..	121	77	59	104	91	123	90	65	98	97
Rural Districts	99	71	53	78	74	102	76	58	87	79
All Areas	134	87	70	98	100	128	91	75	98	100
Mortality per cent. of that in England and Wales in the same class of Area.										
County Boroughs	117	87	58	84	100	114	85	75	92	100
Other Urban Districts ..	132	84	65	114	100	126	93	67	101	100
Rural Districts	133	96	71	106	100	129	96	74	110	100

The differences in mortality between the populations compared are greater at 1–2 than at 2–5 years, and greater at the latter age than in the first year of life (Table VII).

As Table XXIV of the Review for 1926, and similar tables for other years, show that mortality varies more with environment at 0–5 than at any later age, it follows from Table XX that environmental influence is at a maximum, as usual, in the second year of life. This accords with the fact just noted that mortality is falling faster at this than at any other age. It is naturally being prevented most at the age at which it is most preventable.

At both 1–2 and 2–5 years the general type of mortality distribution is the same as that persistently maintained for infant mortality, and illustrated by Tables VI and VII. But the type is accentuated, especially at 1–2 years, when the rate for the North is more than double that of the South in the smaller towns, and almost double in the great towns and rural districts. No exception to the rule of decrease from North to South occurs at either age dealt with.

At age 1–2 years the mortality of the North is more than double that of the South in both large and small towns and almost double in the rural districts. The lower section of the table shows that the Northern excess, both at 1–2 and at 2–5, was lowest in the county boroughs and highest in the rural districts. The advantage of the South, on the other hand, was greatest in the county boroughs and least in the rural districts at 1–2 years. Both of these observations apply with great regularity year after year, though at 2–5 the type of comparison is less fixed, the Southern advantage in 1927 for instance being greatest at this age in the smaller towns, not the county boroughs.

The table (No. XX in the Review for 1926), showing in life table form the results of these differences in juvenile mortality in the shape of survivors at the end of each of the first five years of life out of 10,000 children born to each of the populations compared in Table XX is omitted for 1927, as the results established from year to year are so similar that yearly repetition of this table seems unnecessary. It is proposed therefore to publish it in future at less frequent intervals for periods of several years jointly.

The chief causes of death at ages 1–5 are set forth in Table XXI which also provides comparison with 1926 and with 1911–14.

The table enables us to ascertain the causes responsible for increase of this mortality in 1927 above the minimum attained in 1926. These are chiefly influenza and broncho-pneumonia, the former of which accounts for 335 and the latter for 458 out of the total increase of 822 per million. A relationship between the two, in the form of influenzal origin of the increase in broncho-pneumonia mortality, may be inferred from the fact that of the eight years, 1920–27, for which this tabulation has been carried out, the only one, 1922, which records a higher rate for either cause than 1927, was marked by excess for both. It follows that

Table XXI.—England and Wales: Deaths from Various Causes per Million living at Ages 1–5 Years in 1911–14, 1926, and 1927. (Both Sexes.)

Cause of Death.	Death-rate.			Cause of Death.	Death-rate.		
	1911–14.	1926.	1927.		1911–14.	1926.	1927.
7. Measles	2,673	848	950	98: 2. Laryngitis	152	46	45
8. Scarlet Fever	373	105	90	99. Bronchitis	872	378	391
9. Whooping Cough ..	1,216	749	743	100. Broncho-pneumonia	2,170	1,928	2,386
10. Diphtheria	781	474	448	101. Pneumonia (Lobar and not otherwise defined).	866	478	562
11. Influenza	60	133	468	Other Respiratory Diseases	140	69	79
31. Tuberculosis of Respiratory System.	237	134	143	112 : 1 Inflammation of the Stomach.	94	36	31
32. Tuberculosis of Nervous System.	705	426	448	113 & 114. Diarrhœa and Enteritis.	1,639	502	358
33. Tuberculosis of Intestines and Peritoneum.	391	140	132	128. Acute Nephritis ..	89	43	39
34–37. Other Tuberculous Diseases.	288	145	143	159. Congenital Malformations.	85	75	74
56. Rickets	172	86	80	179. Burns and Scalds ..	360	207	242
71. Meningitis	451	165	157	Other Violence	274	231	239
80. Convulsions	460	153	133	Other Causes	1,071	848	839
				All Causes	15,619	8,399	9,221

the increase of the mortality of early childhood in 1927 may be ascribed solely to influenza. As compared, moreover, with pre-war experience (1911–14) the only causes in the table recording increase in 1927 are influenza and broncho-pneumonia. If other forms of pneumonia are included the total excess over 1926 is more than accounted for. No other cause shows any considerable increase, though a rise of 12 per cent. in the measles rate contributed appreciably to the increase owing to the importance of this rate for these young children. Mortality from burns and scalds, which is of maximum importance at this age, exceeding that from all other forms of violence jointly, increased from 207 to 242 per million. But Table LVIII and Diag. 2 of the Review for 1925 show that mortality at 1–5 from this cause has been greatly reduced of late years, so, as the rate for 1926 (207) is the lowest recently experienced, it is probably lower than for any previous year, and some increase in 1927 was therefore to be anticipated. The diarrhœa rate was much lower in 1927 than in 1926. This cause provides the greatest fall in the table as compared with the pre-war experience of 1911–14. The rate for 1927 was only 22 per cent. of that for those four years. Next to diarrhœa come scarlet fever, 24 per cent., convulsions, 29, laryngitis, 30, meningitis, 35, measles, 36, rickets, 47, and tuberculosis, 53 per cent. These, then, are the forms of mortality most rapidly abating in early childhood, and which are thus foremost in promoting its phenomenal decrease at this time of life as recorded in Tables XVIII and XIX. Their joint mortality in 1927 was only 36 per cent. of that in 1911–14, whereas for all other causes in Table XXI jointly this ratio was 81 per cent., and for the important group of respiratory diseases 84 per cent.

The characteristic infections of childhood, represented by Nos. 7–10 in Table XXI, play a specially important part in mortality at this age, which is therefore much affected by the

degree of their epidemic prevalence. In 1927 these four causes accounted for 24 per cent. of the total deaths, the smallest proportion since 1921 (23 per cent.).

Mortality of the Aged.—The rapid increase at the present time of the relative importance of this section of the population has been already pointed out (page 3). In 1911 persons over 70 years of age were 297 per 10,000 at all ages, in 1921, 344, and for 1927 they are estimated (Table II) at 382 per 10,000. Whereas Table LXI indicates an increase, since 1921, of 33 per 1,000 at ages under 70, that shown for ages over 70 is 150 per 1,000.

The mortality of the aged was high in 1927. Table 3 shows that at ages over 85 the rate for males was higher than in any other year since 1915, and that for females since 1891, the rate for

Table XXII.—England and Wales: Mortality over 70 Years of Age in 1911–20, 1921–25, 1926, and 1927, from the Chief Causes of Death.

	Deaths from each Cause per 1,000 Total Deaths.				Mortality per 1,000 Living			
	1911–20.	1921–25.	1926.	1927.	1911–20.	1921–25.	1926.	1927.
Males.								
Influenza (11)	20	25	16	41	2·3	2 7	1·7	4·7
Cancer (43–49)	81	101	111	128	9·4	11·0	11·7	14·7
Heart Diseases (87–90)	149	169	194	201	17·2	18·4	20·5	23·1
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91–93)	147	184	198	194	16·9	20·1	20·8	22·4
Bronchitis (99)	137	127	110	111	15·9	13·9	11·6	12·8
Pneumonia (100. 101)	34	35	33	36	4·0	3·9	3·5	4·2
Chronic Nephritis (129)	29	27	26	28	3·3	2·9	2·8	3·2
Old Age (164)	223	168	148	122	25·7	18·3	15·6	14·1
Other Causes	180	164	164	139	20·8	17·9	17·3	15·9
All Causes	1,000	1,000	1,000	1,000	115·5	109·2	105·5	115·1
Females.								
Influenza (11)	24	30	19	50	2·3	2·8	1·8	5·0
Cancer (43–49)	87	100	111	130	8·7	9·6	10·2	13·1
Heart Diseases (87–90)	154	186	210	222	15·2	17·8	19·4	22·4
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91–93)	139	167	182	177	13·7	16·0	16·8	17·8
Bronchitis (99)	149	137	113	119	14·8	13·1	10·4	12·0
Pneumonia (100 101)	32	35	33	34	3·2	3·3	3·1	3·5
Chronic Nephritis (129)	21	20	22	23	2·1	1·9	2·0	2·3
Old Age (164)	249	194	176	148	24·6	18·5	16·2	14·9
Other Causes	145	131	134	97	14·4	12·5	12·2	9·9
All Causes	1,000	1,000	1,000	1,000	99·0	95·7	92·1	100·8
Persons.								
Influenza (11)	22	27	18	46	2·3	2·8	1·7	4·9
Cancer (43–49)	85	100	111	129	9·0	10·2	10·9	13·8
Heart Diseases (87–90)	152	179	203	212	16·0	18·1	19·8	22·7
Disease of Blood Vessels, including Cerebral Hæmorrhage (74, 91–93)	142	175	189	184	15·1	17·7	18·5	19·7
Bronchitis (99)	144	133	112	116	15·2	13·4	10·9	12·3
Pneumonia (100, 101)	33	35	33	35	3·5	3·5	3·2	3·8
Chronic Nephritis (129)	24	23	24	25	2·6	2·3	2·3	2·7
Old Age (164)	237	182	163	136	25·0	18·4	16·0	14·5
Other Causes	161	146	147	117	17·0	14·7	14·3	12·4
All Causes	1,000	1,000	1,000	1,000	105·8	101·2	97·6	106·7

males exceeding the yearly average since the commencement of registration by 4·7, and that for females by 7·5 per cent. No quinquennium since 1876–80 has returned so high a rate as 1927 for females at these ages, and none since 1886–90 for males. Excess was less at 75–85, where for each sex the 1927 rate was below the average since the commencement of registration, but for each sex it was the highest since 1922, the last preceding year to record influenza mortality on the scale of that of 1927.

The principal causes accounting for this increase are set forth in Table XXII.

Every cause distinguished in this table except "old age" returned a higher mortality for each sex in 1927 than in 1926. This form of return has, as the table shows, been rapidly declining in frequency of recent years. It was applied to only 13·6 per cent. of deaths over 70 in 1927 as compared with 23·7 per cent. in 1911–20. This change must help in some degree to account for the increases from more definite causes.

As compared with 1926 the greatest increase is from influenza, heart disease and cancer coming next. When comparison is made with 1921–25, which included two years of high influenza mortality, 1922 and 1924, the increase from this cause is naturally less outstanding, heart disease ranking first, and next to it cancer. Both these rates are likely to be swollen by transfer from "old age," heart disease as a result of increased record of myocardial disease on the death certificates of aged persons (Review for 1926, page 90), which may involve some transfer also from respiratory disease, and cancer as a result of the increasing frequency of recognition of the disease in old people which probably accounts largely for the rapid increase of its mortality at this time of life.

Centenarians.—Among the deaths registered during the year there were 84 of reputed centenarians, 16 of whom were males and 68 females. In the preceding three years the numbers were 86, 92 and 88 respectively. Particulars of the ages returned and of the classes of area concerned are given in Table XXIII.

Table XXIII.—England and Wales : Age at Death of Centenarians, 1927.

	Males.								Females.							
	100 and over	100.	101.	102.	103.	104.	105.	106.	100 and over	100.	101.	102.	103.	104.	105.	106.
London	—	—	—	—	—	—	—	—	9	2	1	2	2	—	1	1
County Boroughs	2	—	1	1	—	—	—	—	16	8	2	3	1	—	1	1
Other Urban Districts	5	3	—	1	1	—	—	—	19	7	7	5	—	—	—	—
Rural Districts ..	9	5	1	1	1	—	1	—	24	11	3	5	3	2	—	—
All Areas ..	16	8	2	3	2	—	1	—	68	28	13	15	6	2	2	2

For the fourth year in succession more deaths of male centenarians occurred in the rural districts than in any other class of area. During the fifteen years 1913–27 such deaths have been returned especially from the rural districts for both sexes, but the proportion for males, 41 per cent. of the total for all areas, is higher than for females, 34 per cent. These figures are in close accord with those of population at the census of 1921, when 14 out of 30 males, 47 per cent., and 24 out of 80 females, 30 per cent., were returned from the rural districts. This correspondence cannot be cited as evidence of the correctness of the statement of age in these cases, but it does show close correspondence between the individuals reputed to be centenarians and returned as such at the census and those so returned in death registration. Census and registration figures moreover agree in indicating that the proportion of centenarians in the rural districts, high for both sexes, is specially high for males. This difference forms merely a particular illustration of the general fact pointed out by the Government Actuary in Part I of the Decennial Supplement, 1921, of the relatively favourable mortality experience of the "male population in rural areas."

CAUSES OF DEATH.

The causes of death of males and females at 18 groups of ages are stated in Table 17 for the whole country, for London, for county boroughs in the aggregate, for other urban districts in the aggregate, and for rural districts in the aggregate; and in Table 17A further detail of age is shown for all causes of significance at ages 0–5. In Table 18 deaths from each cause distinguished are tabulated by month of occurrence and by sex, but not by age. This table differs from all others in referring to date of occurrence and not of registration. So far as they relate to the whole country these tables include all deaths, but deaths of non-civilians are excluded from all tables relating to portions of the country (*see* page 1). The causes and ages of the latter are stated in Table 19 for the country as a whole. Table 17 includes the full International List of causes of death, as revised in 1920. Certain of the numbered items in it are subdivided, and where this occurs the letters (*a*), (*b*), &c., indicate subdivisions in international use, and numbers (1), (2), &c., subdivisions made without international agreement. All other abstracts of the causes of death are arranged in the form of the short list of causes adopted by the Registrar-General in consultation with the Ministry of Health for use during 1921–30. The relation of this list to the detailed and condensed International Lists, as revised by the International Commission which met for the purpose at Paris in 1920, is as shown on following page.

	Short List of Registrar-General.	Corresponding Number.	
		Detailed International List.	Abridged International List.
1	Enteric fever	1	1
2	Small-pox	6	4
3	Measles	7	5
4	Scarlet fever	8	6
5	Whooping cough	9	7
6	Diphtheria	10	8
7	Influenza	11	9
8	Encephalitis lethargica	23	12 pt.
9	Meningococcal meningitis	24	12 pt.
10	Tuberculosis of respiratory system	31	13
11	Other tuberculous diseases	32–37	14 & 15
12	Cancer, malignant disease	43–49	16
13	Rheumatic fever	51	37 pt.
14	Diabetes	57	37 pt.
15	Cerebral hæmorrhage, &c.	74 & 75*a*	18 pt. 37 pt.
16	Heart disease	87–90	19
17	Arterio-sclerosis	91*b*	37 pt.
18	Bronchitis	99	20 & 21
19	Pneumonia (all forms)	100 & 101	22 & 23 pt.
20	Other respiratory diseases	97, 98 & 102–107	23 pt.
21	Ulcer of stomach or duodenum	111	24 pt.
22	Diarrhœa, &c. (under 2 years)	113	25
23	Appendicitis and typhlitis	117	26
24	Cirrhosis of liver	122	28
25	Acute and chronic nephritis	128 & 129	29
26	Puerperal sepsis	146	31
27	Other accidents and diseases of pregnancy and parturition	143–145 & 147–150	32
28	Congenital debility and malformation, premature birth	159–161	33
29	Suicide	165–174	36
30	Other deaths from violence	175–203	35
31	Other defined diseases	2–5, 12–22, 25–30, 38–42, 50, 52–56, 58–73, 75*b*–86, 91*a*, 91*c*–96, 108–110, 112, 114–116, 118–121, 123–127, 130–142, 151–158, 162–164	2, 3, 10, 11, 12 pt., 17, 18 pt., 24 pt., 25 bis, 27, 30, 34, & 37 pt.
32	Causes ill-defined or unknown	204 & 205	38

The contents of every heading in both the short and the detailed list now in use are defined in the Registrar-General's "Manual of the International List of Causes of Death" (1920 Revision),* which should be consulted in all cases where it is desired to ascertain the precise significance of any heading in the lists.

In Table 20 deaths of civilians are shown for different classes of area in various sections of the country, for urban and rural portions of administrative counties, and for county and metropolitan boroughs, arranged by sex, age, and the short list

* Copies may be obtained from H.M. Stationery Office. Price 2*s*. net.

of causes as above. For other administrative areas of over 10,000 population in 1921 deaths of civilians are shown in Table 21, arranged by sex and short list of causes, but without distinction of age.

In addition to the above tables, which relate exclusively to the year 1927 (except Table 18, which deals with the twelve months Oct. 1926–Sept. 1927), Table 4 contains a statement of the number of deaths registered in each year 1917–27 from each cause distinguished in Table 17, so far as available, with distinction of sex but not of age; while Table 5 states the corresponding crude death-rates per million living for persons, males, and females, so far as these can be regarded as of any significance. Similar tables (Nos. 8 and 9) state the mortality during the same eleven years of infants under one year of age from the causes of chief importance at that age, but without distinction of sex.

1. **Enteric Fever.**—The number of deaths classified to this heading during 1927 was the same as in 1926—367. Of these, 54, or 15 per cent., were returned as paratyphoid, as against only 6, or 0·25 per cent., in 1911, the first year for which the information is available.

The standardized mortality corresponding to these deaths, 9 per million living, as in 1926, is the lowest yet recorded in this country.

Table 6 shows that this is less than half the rate recorded for any year prior to 1919, and one-thirtieth of those prevalent fifty years ago. (Before 1869 these deaths were not separately distinguished in the tabulation, being grouped with other fevers).

The history of this remarkable fall is recorded in Table 6, with allowance by standardization for changes in the type of population at different periods, but mortality from this cause is little affected by standardization, the crude rate (Table 5), for each year from 1920 on being the same as the standardized (Table 6). The rapid fall which set in after 1899 continued till 1919, a rate of 15 per million in the latter year contrasting with 198 in the former. Since 1919, the reduction, proportionately as well as absolutely, has been much less, but it must be expected that as the vanishing point approaches the rate of fall will diminish.

The peak in 1899 corresponded with a period of heavy diarrhœal mortality (Table IV), and marked the close of a phase of stationary or even increasing rates for enteric fever during the 14 years 1886–1899, before which decline had been rapid. The fall since 1899 has been interrupted several times by increases for a single year only, of which the chief, in 1911, corresponded with a similarly temporary increase in diarrhœal mortality. Of late years this association has become less obvious, though increases for both diseases coincided again in 1921.

The distribution of this mortality throughout the country is outlined in Table XXIV.

Table XXIV.—Enteric Fever, 1927 : Mortality per Million Civilian Population.

Class of Area.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	7	—	7
County Boroughs ..	8	6	7	9	7
Other Urban Districts	16	9	11	7	12
Rural Districts ..	13	8	15	7	11
All Areas	11	8	9	7	9

As in 1925 and 1926, and in 12 altogether of the 17 years 1911–27, the highest rate in the table is that for the small towns of the North. But the disease has ceased to be one chiefly fatal to dwellers in towns, large or small. In each year 1911–16 the rate for the rural districts was below that for the country at large, but since then it has been so only in one year, 1921. Though mortality still tends to be higher in the North than in the Midlands or South, this difference has decreased greatly of late years. In 1911–14 the rate for the North was more than double that for either of the other sections of England, but since then, and especially since 1921, the Northern excess, though always present, has been, as in 1927, very much less. The fall since 1911–14 has been much greater in the county boroughs than in the urban or rural districts, but it has not been on the same scale in London, the rate for which before the war was only about half that for the county boroughs, but during the last ten years has been much the same as theirs.

Table 23 shows that the disease was somewhat more prevalent in 1927 than in several recent years, the low mortality of the year being explained by the unprecedentedly low fatality rate of 104 deaths per 1,000 notified cases (Table XXVI). Prevalence fell rapidly from 0·38 notified cases per 1,000 population in 1911, when the record commences, to 0·06 in 1922, since when it has again increased to ·09 in 1927. It is higher in the South of England than in the North, whereas fatality is far lower (Table XXV), the higher death-rate of the North being thus due entirely to higher case-mortality. This was the case also in 1925 and 1926, with a tendency to the same distribution, though less regularly manifested, in the five preceding years, for which alone the comparison can be made. In each of these eight years fatality was highest in the North of England, and in four of them lowest in the South. There is therefore a tendency in the case of enteric fever to the distribution characteristic of diphtheria, for which the fatality is consistently highest in the North, and prevalence in the South, presumably owing to notification of a larger proportion of mild cases in the South. The distribution shown in Table XXV for prevalence of and mortality from enteric fever may be due in some measure to the same cause. This surmise is confirmed by

examination of the notifications of paratyphoid fever in the sections of the country. Of these there were in all 935, 98 in the North, 458 in the Midlands, 361 in the South, 10 in Wales, and 8 in port sanitary districts, proportions per cent. of total enteric notifications varying from 8·6 in Wales and 10.6 in the North to 30·5 in the South and 36·8 in the Midlands. As the fatality of the paratyphoid cases was 58 per 1000 and of the typhoid 120, the lower proportion of the former in the North and Wales must contribute appreciably to the higher fatality there.

Table XXV.—Enteric Fever, 1927 : Prevalence and Fatality.*

Class of Area.	Cases per 1,000,000 Population.					Deaths per 1,000 Cases notified.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	75	—	75	—	—	88	—	88
County Boroughs	58	57	111	32	62	133	101	64	278	114
Other Urban Districts ..	91	121	166	52	114	173	78	68	130	102
Rural Districts	76	119	132	43	105	168	68	111	167	102
All Areas	71	99	114	45	90	155	79	83	163	104

* Excluding non-civilian cases and deaths.

Table XXVI.—England and Wales : Fatality of certain Infectious Diseases (Deaths per 1,000 Notified Cases), 1911–27.*

Year.	1. Enteric Fever.	6. Small-pox.	8. Scarlet Fever.	10. Diphtheria.	21. Erysipelas.	22. Poliomyelitis.	23. Encephalitis Lethargica.	24. Meningococcal Meningitis.
1911 ..	174	78	18·1	103	39	?	?	?
1912 ..	191	73	18·6	96	39	?	?	?
1913 ..	182	87	16·1	88	35	283	?	1,089
1914 ..	194	62	17·2	99	42	348	?	1,257
1915 ..	197	144	18·2	109	45	333	?	623
1916 ..	188	107	17·8	103	40	270	?	704
1917 ..	203	429	15·0	103	42	468	?	692
1918 ..	206	32	20·0	109	46	1,013	?	767
1919 ..	160	82	14·7	90	41	294	525	732
1920 ..	171	114	12·0	81	52	404	539	911
1921 ..	158	16	9·5	72	55	314	493	1,007
1922 ..	191	28	12·7	78	53	352	742	1,046
1923 ..	140	3	11.6	68	50	185	517	944
1924 ..	120	3	10·5	60	52	183	279	746
1925 ..	139	2	10·8	58	57	370	520	876
1926 ..	134	2	8·3	59	55	180	584	927
1927 ..	104	3	6·8	52	56	202	713	911

* The rates in this table are given with reserve, being in some respects unsatisfactory. For the years 1911–13 cases of disease among non-civilians have been excluded from the notification returns, but it has not been possible to distinguish their deaths; for 1914 both cases and deaths relate to the total population; while for subsequent years the figures relate exclusively to the civilian population.

The numbers of small-pox cases in some years are too small to yield significant rates, but their basis of fact can be inferred from Table 4, and the rates quoted serve to bring out the extremely mild type of disease prevalent in 1921-27. The rates for poliomyelitis include polioencephalitis, which was not distinguished in the notification returns until 1919. The extraordinary rise in 1918 is partly ascribable to certification of a number of deaths from the then "new disease," encephalitis lethargica, as polioencephalitis, but mainly to a reduction in notifications unaccompanied by significant change in the number of deaths (*see* Report for 1918). The rates from this disease will be found to differ from some of those published in the Annual Reports of the Chief Medical Officer of the Ministry of Health, partly because polioencephalitis is included throughout and partly because special inquiries made by the Ministry in certain years have led to revision of the returns for those years, which is not embodied in Table XXVI. The cases there referred to are similar for each year dealt with, being in all cases derived from the published notification returns. The latter source of discrepancy applies also to meningococcal meningitis, and in this case there is a possibility that some cases of posterior basal meningitis may not have been notified as cerebro-spinal fever though all such deaths are included in the table.

Scarlet fever and diphtheria, like enteric, yielded lower fatality rates (from comparison of deaths with notifications) in 1927, than in any other year since publication of the notifications was begun in 1911. For the fifth year in succession the type of small-pox prevalent was mild to a degree beyond all previous precedent.

Table 7 records no outstanding mortality from enteric fever in any county or county borough. As in each year since the Bolton-upon-Dearne outbreak of 1921, the rate for the West Riding of Yorkshire was comparatively high, coming third in 1927 amongst administrative counties of over 100,000 population, and being more than double the county average. The rates for Huddersfield and Wakefield, as well as for Worcester, were more than five times the county borough average.

6. **Small-pox.**—The deaths allocated to this cause numbered 47, the largest total since 1905, when there were 116, this being the last of a series of eight years, 1898–1905, in all of which the total for 1927 was much exceeded. These 47 deaths include all of which the certificates make mention of small-pox except two, one of which was assigned to encephalitis lethargica, and the other to cancer, also recorded on the death certificates. Preference of small-pox in classification to almost any other cause of death simultaneously recorded is an old tradition in death classification in this and other countries. In the past it presumably worked well, as it could be assumed that, with few exceptions, a person dying with, died of, small-pox. But this no longer holds good of the mild type of disease now prevalent, and the report of the Chief Medical Officer of the Ministry of Health accordingly excludes from the small-pox total eleven deaths in addition to the two referred to, "in respect of which small-pox is entered on the death certificates either as a secondary or a contributory cause of death," so obtaining a reduced total of 36. This would evidently be the appropriate course to adopt in view of the present difficulties affecting the record of these deaths if the evidence of the certificates on the point in question could be relied upon. It was indeed in order to make this possible that the new form of death certificate (page 147) was brought into use on July 1st, 1927. But unfortunately it has been found necessary, for the reasons stated on page 145, to continue for the present the use of the fixed rules of selection* for many years employed, especially as a change of procedure could not be limited to any one cause, like small-pox, but must apply to all causes of death. Under these rules the number of deaths from small-pox in 1927 was 47, a figure which compares with the records for earlier years, but it will readily be understood that with the present wide diffusion of a mild type

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* See Registrar-General's Manual of the International List of Causes of Death (1920 Revision), pp. xxi–xxv.

of disease it is impossible to determine from the evidence of death certificates alone the exact number of deaths for which the disease was chiefly responsible. If this number is overstated at 47, as the circumstances of the case and the report referred to suggest, at least this number is as comparable as may be with those recorded for earlier years by use of the same method of classification.

The type of disease prevalent in 1927 remained mild to a degree unprecedented in the official records before 1923, when the fatality rate suddenly fell from 28 to 3 per 1,000 cases, a level which has not since been exceeded (Table XXVI). But the report of the Chief Medical Officer records cases of severer type, confluent and even hæmorrhagic in some instances, in certain local outbreaks in London and Middlesex.

As in 1926, Durham was the county chiefly affected, accounting, with its associated county boroughs, for 6445, or 44 per cent., of the 14,767 notified cases, and for 20, or 43 per cent., of the 47 deaths.

The counties (with county boroughs) returning highest rates of prevalence, with the rates per 1,000 population in each case, are seen from Table 28 to have been—Durham, 4·15 ; Monmouth, 4·07 ; West Riding, 0·97 ; Brecknock, 0·96 ; Northumberland, 0·81 ; Derby, 0·80 ; Nottingham, 0·77 ; North Riding, 0·38 ; Glamorgan, 0·34 ; Lincs. Lindsey, 0·24, and Lancashire, 0·09. These counties returned 14,563 out of the total of 14,767 notifications, or 99 per cent of the whole, and 38 deaths, or 81 per cent. of the whole. Of the remaining 9 deaths 5 were in Middlesex and 2 in London, though the total notifications were only 11 in Middlesex and 5 in London.

7. **Measles.**—The deaths registered from this cause numbered 3,622, corresponding to a mortality of 92 per million population. This is a lower rate than that for any previous year except 1921 (59), and 1926 (89). At ages under 15 years, which, owing to the decreasing proportion of children in the population, afford a better basis for comparison than all ages jointly, the position is the same. The lowest rate recorded at these ages in Table 6 for any quinquennium of the nineteenth century is almost three times that for 1927.

Table XXVII.—Measles, 1927 : Mortality per 100,000 Living at Ages under 5 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	44	—	44
County Boroughs ..	232	111	96	128	175
Other Urban Districts	153	32	12	87	75
Rural Districts ..	113	26	21	62	50
All Areas	190	57	39	88	101

The distribution throughout the country of mortality from measles is stated in Table XXVII in the form of death-rates per 100,000 living at ages 0–5. Deaths at these ages in 1927 formed 91 per cent. of the total, and statement in this form prevents the comparison being prejudiced by varying proportions of children in the populations compared.

This table demonstrates, as usual, how preponderantly measles mortality is affected by city life. The regular increase shown for 1927 from rural districts to small towns, and from these to county boroughs, is common to the experience of each of the 17 years, 1911–27, for which the facts are available. The rule of increase from South to North of England is also of very general application, though not so constant as that applying to urbanization. In 1927, as in ten more of the same seventeen years, it applies to each class of area distinguished.

A table (XXX), in last year's Review, showed that the increase of mortality from the country to the large towns was accompanied by, and presumably largely explained by, a higher average age at death in the former than in the latter. The differential fatality of measles for young children is well known, and, though there are no national records of the ages of children attacked, it may be assumed with confidence that where attacks occur earliest in life the proportion of deaths during the first two years will be greatest, so that a relatively large proportion of deaths over two years of age must imply relatively late onset of the disease. These proportions may be ascertained from Table 20, and for 1927 are as stated in the following table.

Table XXVIII.—Age Distribution of Mortality from Measles, 1927. Deaths over 2 years of age per cent. of Total.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	32	—	32
County Boroughs.. ..	34	34	56	41	36
Other Urban Districts ..	39	41	48	36	40
Rural Districts	47	47	46	33	45
All Areas	36	37	43	37	37

It will be seen that the proportion of late deaths decreases regularly with urbanization from a maximum in the rural districts to a minimum in London, and that it tends also for the most part to decrease from South to North.

The first mentioned difference appears to be a natural consequence of the relative isolation of the rural infant ; and the second, which applies only to the towns in 1927, though in 1926 also to the rural districts, may be associated with differences in the housing conditions of these sections of the country.

Table 7 shows that, of administrative counties with over 100,000 population, the West Riding returned the highest death-rate, 213 per million, Durham, 193, and Worcester, 119, coming next. The highest county borough rates were—Barnsley, 691; Wigan, 620; St. Helens, 531, and Liverpool, 408.

Table 18 shows that, as usual, mortality was highest during the spring, culminating in April, with 15·9 deaths per day. April was shown in the Review for 1925 to have experienced the highest mortality during 1921–25, but in 1926 March came first.

8. **Scarlet Fever.**—The deaths allocated to this disease during 1927 number 579. They correspond to a rate of 15 per million total population at all ages, and of 49 per million at ages under 15 years (Table 6). The latter rate is, of course, the better measure of mortality for diseases chiefly affecting the child population. Table 6 shows that, for the second year in succession, this rate is below any previously recorded, the nearest earlier approach being 62 in 1917.

The same table also shows that for twelve years in succession this rate has been much lower than any recorded previous to this period (*i.e.*, to 1916), the mortality being now trifling compared with that prevalent a generation ago.

The progress of the decline from the maximum decennial rate of 1861–70 (Table 6) may be traced in the following statement of proportionate figures for subsequent periods, taking the rate of 2,617 in that decade as 1,000—1871–80, 729; 1881–90, 345; 1891–1900, 168; 1901–10, 119; 1911–20, 54; 1921–25, 35; 1926, 22; 1927, 19. Thus the mortality of 1927 was less than 2 per cent. of that experienced 60 years earlier.

Table XXVI shows that the decrease in fatality of cases of this disease, which has been observed for many years, still continues, the rate of 6·8 deaths per 1,000 notified cases in 1927 being the lowest in the table.

Table XXIX.—Scarlet Fever, 1927 : Mortality per Million Living at Ages under 15 years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	47	—	47
County Boroughs ..	59	38	66	26	51
Other Urban Districts	58	51	35	37	48
Rural Districts ..	54	52	31	36	46
All Areas	58	46	43	34	49

The distribution of mortality recorded in Table XXIX follows the general type which has been noted for the last 17 years. Mortality tends to increase with urbanization for England and Wales generally, and from South to North in each class of area.

The second of these rules, which is of less constant application than the first, is broken for the county boroughs in 1927 by excess for the South ; otherwise both rules apply as usual.

Table XXX.—Scarlet Fever, 1927 : Prevalence and Fatality.

	Cases per 10,000 Population aged 0–15 years.					Deaths per 1,000 Cases notified.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	118	—	118	—	—	5	—	5
County Boroughs	87	93	95	40	87	8	5	9	6	7
Other Urban Districts ..	80	90	84	53	82	8	7	5	8	7
Rural Districts	71	67	70	41	66	11	8	7	11	9
All Areas	82	85	98	47	84	8	6	6	8	7

Table XXX shows that, as in 1926 and several other recent years (1921, 1922, 1924), prevalence was higher in London than for any of the other sections of the population compared in the table. Fatality on the other hand, was, as usual, below average in London. As in the case of diphtheria, therefore, a milder type of infection appears to be recognised as scarlet fever in London than elsewhere, though the contrast is much less than that exemplified in Table XXXIV for diphtheria.

Fatality was highest in the rural districts, especially of the North and of Wales, but even for these it is falling very rapidly.

Table 7 shows that amongst counties with over 100,000 population mortality was highest, at 37 deaths per million population (as compared with an average of 15 for all counties), in Shropshire, Northumberland and Durham (the latter highest in 1926) coming next.

The highest rates amongst the county boroughs (average 15), were for Tynemouth (75), Bootle (71), and Southampton (59).

9. **Whooping Cough.**—The deaths allocated to this heading numbered 3,681, 1,660 of males and 2,021 of females. The excess for females is shown by Table 4 to be a constant feature of this disease, and tends to increase with age. The mortality was 94 per million total population at all ages, and 367 at ages under 15 years. The latter rate is lower than for any other year in Table 6, except 248 in 1919. It is less than half that for 1906–10,

Table XXXI.—Whooping Cough, 1927 : Mortality per 100,000 Living at Ages under 5 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	137	—	137
County Boroughs ..	119	137	66	50	116
Other Urban Districts	97	110	78	95	98
Rural Districts ..	82	114	80	78	94
All Areas	107	120	104	80	108

and less than one-third of that for 1891–95, or any earlier quinquennium, so mortality from whooping cough, as from the other common infections of childhood whose record is traced in Table 6, has been falling very rapidly during the present century.

The distribution of mortality from this cause is indicated in Table XXXI.

It will be seen that extra-metropolitan mortality increased regularly with urbanization, as it has done in each year from 1911 onwards, except 1915 and 1919.

But the usual rule of increase of mortality, for each class of area considered separately, from South to North, is broken in 1927 by excess, for each class, of the Midlands over the North, though the rate for the South remains lowest in each case. The fall of mortality in 1927 was confined to the North of England, where a decline of 36 per cent. from the level of the previous year compares with increases of 13 and 68 per cent. for the Midlands and South (145 per cent. for London). In the absence of national records of prevalence it can only be assumed that in 1927 the incidence of the disease on the rest of the country increased relatively to that on the North.

Table XXXII shows that, as usual, the proportion of total deaths occurring in the first year of life declined with increasing urbanization, from rural districts to county boroughs. This rule does not apply to the comparison between London and the county boroughs, but otherwise the only apparent exception to its application from 1911 onwards is the equality shown for county boroughs and urban districts in 1926. But even in this case the urban district percentage (45·2) is higher than that of the county boroughs (44·6), so during the seventeen years available for this comparison no exception to the rule has occurred. During each of the last ten years except 1921 the proportion of early deaths has been higher in Wales than in any of the three sections of England.

Table XXXII.—Whooping Cough, Age at Death as affected by Urbanization : Deaths under One Year of Age per cent. of those at All Ages in each Year 1918–1927 inclusive.

	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
London	30	34	45	43	33	47	38	43	44	41
County Boroughs ..	35	35	44	47	40	42	41	42	45	40
Urban Districts ..	38	43	53	53	43	47	46	47	45	44
Rural Districts ..	42	48	60	59	50	51	49	51	54	49
All Areas	36	40	49	50	41	46	43	45	47	43

10. **Diphtheria.**—The fact that from 1921 onwards this heading excludes "croup," a term now seldom met with, and shown by Table LVI and its predecessors for the most part no longer to signify diphtheria, makes little difference to the number of deaths

included, as in 1920, the last year for which these deaths were distinguished, they totalled 18, as against 5,648 from diphtheria.

The 2,732 deaths from diphtheria in 1927 include 1,339 of males and 1,393 of females. This excess for females is a very constant feature of the returns, applying to each year since the disease was first distinguished save one only—1922. The crude death-rate, on the other hand, is seen from Table 5 generally to be in excess for males, slight excess for females in 1926 being the only exception to this rule during the last eleven years. In reality, however, the female sex suffers most from this disease, as shown by a constant excess, for females, of standardized mortality, varying from 5 to 14 per cent. during the six decades 1861–70 to 1911–20.

The history of diphtheria mortality is best expressed by the death-rate from diphtheria and croup at ages under 15 in Table 6, as during last century much diphtheria was evidently returned as croup, and the larger proportional child population in itself tended to produce a higher crude death-rate at all ages. The rate for 1927, 257 per million aged 0–15, is lower than in any previous year except 1923 and 1924. It is less than one-fifth of the maximum rates during the years 1856–65, and less than one-fourth of that marking the secondary peak of 1893.

Table XXXIII.—Diphtheria, 1927 : Mortality per 100,000 living at Ages under 15 Years.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	33	—	33
County Boroughs ..	31	33	36	27	32
Other Urban Districts	20	25	24	26	23
Rural Districts ..	14	18	10	19	15
All Areas	25	26	27	24	26

Table XXXIII shows that, as in 1926, the county boroughs of the South returned a higher rate than any other population distinguished in the table. Before 1926, for seven years consecutively, 1919–25, the London rate had been highest. It has exceeded that of England and Wales in each of the eleven years 1917–27, though during 1911–16 it kept near the general average. The later excess increased yearly from 15 per cent. in 1917 to 154 per cent. in 1922, gradually falling again to 27 per cent in 1927. There is little difference in recorded mortality between the sections of the country distinguished, but in each section the rate increases regularly from rural districts to county boroughs. The rate for the latter, taken as a whole, is more than double that for the former. This excess has been gradually increasing since 1921, when both were equal, but it has never, during the 17 years for which the comparison can be made, been so great as in 1927.

In each of the years 1911–20 the rate for the county boroughs exceeded that for the rural districts, but only in 1926 and 1927 has it been twice as great.

Table XXXIV shows the great excess of mortality in London to be due entirely to greater prevalence, the proportion of notified cases being 110 per cent. in excess of the average. If it were not that fatality was particularly low in London (the London rate being, for the third year in succession, the lowest in the table), the excess of London mortality would have been much greater. Fatality in London has been for many years below the average for England and Wales, but rapid reduction of fatality has been a feature of the recent history of the disease in England and Wales generally, the average rate falling from 109 in 1918 (a higher rate than before the war) to 52 in 1927 (Table XXVI). Prevalence, on the other hand, has varied but little, the proportion of notified cases during recent years being in slight excess of that immediately before the war. The excess of prevalence in the South over the North and of fatality in the North over the South in Table XXXIV conform to a rule to which there has been no exception during the years, 1911–13 and 1918–27, for which this comparison can be made. This experience, repeated year after year, suggests a varying standard of diagnosis, cases similar to the milder of those notified as diphtheria in the South not being so regarded in the North.

If so, the acceptance of mild types of disease as diphtheria is presumably at a maximum in London, which records the highest prevalence and lowest fatality in Table XXXIV, as also in other recent years. But the excess of London mortality during the last eleven years cannot be explained on these lines.

Table XXXIV.—Diphtheria, 1927 : Prevalence and Fatality.

	Cases per 10,000 Population aged 0–15 years.					Deaths per 1,000 Cases notified.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	109	—	109	—	—	32	—	32
County Boroughs	52	66	62	48	57	61	53	60	61	58
Other Urban Districts ..	32	50	47	52	44	66	54	54	53	57
Rural Districts	22	27	23	31	25	69	73	57	66	68
All Areas	42	49	71	45	52	63	56	40	58	52

It will be seen from Table XXXIV that the excess of prevalence in London falls into line with large excess for great towns over small, and for small towns over rural areas, in all parts of England, fatality, on the other hand, being higher in the rural districts, as it is lower in London, than in the other towns, great or small.

The distribution of diphtheria mortality amongst the administrative counties (Table 7) shows no great excess in any of over 100,000 population, the highest county rate, that for Glamorgan (96 deaths per million) being only 57 per cent. in excess

of the county average. The London rate, which in 1926 was second highest amongst counties of over 100,000 population, comes sixth in 1927. The rates for county boroughs show much more variation. Much the highest is that for Walsall, 382, or more than four times the county borough average. Five other county boroughs returned rates more than double this average, and of these, two, Nottingham and Portsmouth, like Walsall, did so also in 1926. The Walsall rate has been particularly heavy for several years now, having been highest for the county boroughs in 1924 and 1925 as well as 1927.

11. **Influenza.**—The deaths assigned to this cause numbered 22,263—10,804 of males and 11,459 of females—yielding a mortality of 567 per million persons living. This is the highest crude rate recorded since the great epidemic of 1918–19 (Table 5), but Table 6 shows that it is reduced on standardization to 470, and is then exceeded by the similar rate for 1922 (503). Comparison of Tables 5 and 6, the latter of which for the first time deals with standardized rates, shows that the effect of standardization in reducing the crude death-rate from influenza, a disease chiefly as a rule fatal to old people, has been increasing, along with the proportion of old people in the population, since the standard year 1901. Since 1921 this reduction has increased from 10 to 17 per cent. But its extent has not been influenced by the age distribution of the population only, but also by that of the deaths. When the brunt of mortality fell much earlier than usual in life during the great epidemic, age for a time ceased to favour mortality, and the standardization reduction allowing for increase of age, which had risen to 10 per cent. in 1917, was converted into an increase of 1 per cent. in 1918 (as compared with the crude rate based on total population, which is lower than that shown for the civilian population in Table 5), and amounted to only 3 per cent. in 1919. Since then it has gradually increased from 6 per cent. in 1920 to 17 in 1926 and 1927, as the proportion, both of the population and of influenza deaths, has increased at the higher ages.

But influenza mortality still affects later life relatively less than before 1918. The age distribution of deaths in 1927 compares as follows with that for 1890–1917, and for 1918, when the effect of the increased age of the population in 1927 is eliminated by comparing deaths in the standard population of 1901 at the rates applying to the three periods :—

Age Distribution of Deaths from Influenza in the Standard Population (1901) at Rates for Age-Groups in—

	1890–1917.	1918.	1927.
0– ..	119	259	183
15– ..	121	447	112
35– ..	206	182	212
55– ..	367	93	304
75– ..	187	19	189

Although reduction of the crude rate by standardization is now so much greater than ever before, the proportion of (standardized) deaths occurring in later life is still considerably less than before 1918, a slight reduction of the incidence upon young adults, which was so enormously increased in 1918, being more than counterbalanced by a greater increase in childhood. Were it not for the countervailing influence of this transfer of mortality from age to youth reduction of the crude rate on standardization, to allow for the increased age of the population in 1927, would amount to appreciably more than 17 per cent.

The distribution of influenza mortality throughout the country is indicated in Table XXXV.

Table XXXV.—Influenza, 1927 : Civilian Mortality per Million Living at All Ages.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	400	—	400
County Boroughs ..	520	509	497	503	513
Other Urban Districts ..	617	579	562	546	585
Rural Districts	610	799	724	697	727
All Areas..	565	615	516	583	569

As in each of the three preceding years the recorded mortality was lowest in London, though this was by no means the rule prior to 1924, the London rate sometimes, indeed, exceeding that for England and Wales. The London minimum harmonizes for 1927 with a very definite gradation of mortality from a maximum in the rural districts to a minimum in the great towns. No evidence, however, of this gradation is discernible for many of the years before 1927, and, indeed, no fixed tendency appears to characterise the distribution of influenza mortality in this country.

In each of the seven years which can now be compared in this respect, mortality from influenza with pneumonic complications has been in considerable excess for males, and that with other pulmonary and without stated complications in some excess for females. Of the deaths in 1927, 45 per cent. were stated to have been associated with pneumonic, and 24 per cent. with other pulmonary, complications.

Table 18 shows that deaths were most numerous in the first quarter of 1927, when 17,944 occurred out of 22,263 in the year, or 81 per cent. of the whole. This mortality culminated in February, when 42 per cent. of the year's deaths occurred.

Concentration of influenza mortality upon the first three months of the year, to an extent unparalleled for any other cause on any season, was shown in the Review for 1925 to have characterised the experience of the years 1921–25, even though this did not apply to the great epidemic of 1918–19, which in

this, as in other respects, was a law unto itself. This concentration, moreover, is highly associated with heavy mortality, as may be seen from the following comparison of percentage of the year's deaths occurring in the first three months with standardized mortality (Table 6) for the seven years now covered by Table 18 :—

	Percentage of total deaths occurring in first quarter.	*Standardized mortality per million.*
1921	37	213
1922	82	503
1923	27	189
1924	67	416
1925	60	274
1926	33	191
1927	81	470

For these seven years the order of concentration and the order of mortality are identical, the years ranging themselves (from above downwards) in both respects as follows :—1922, 1927, 1924, 1925, 1921, 1926, 1923. It is very evident that, in ordinary circumstances, so far as can be judged from seven years' experience, whatever the periodicity of influenza epidemics may be, their danger to life is largely confined to those occurring during the first three months of the year.

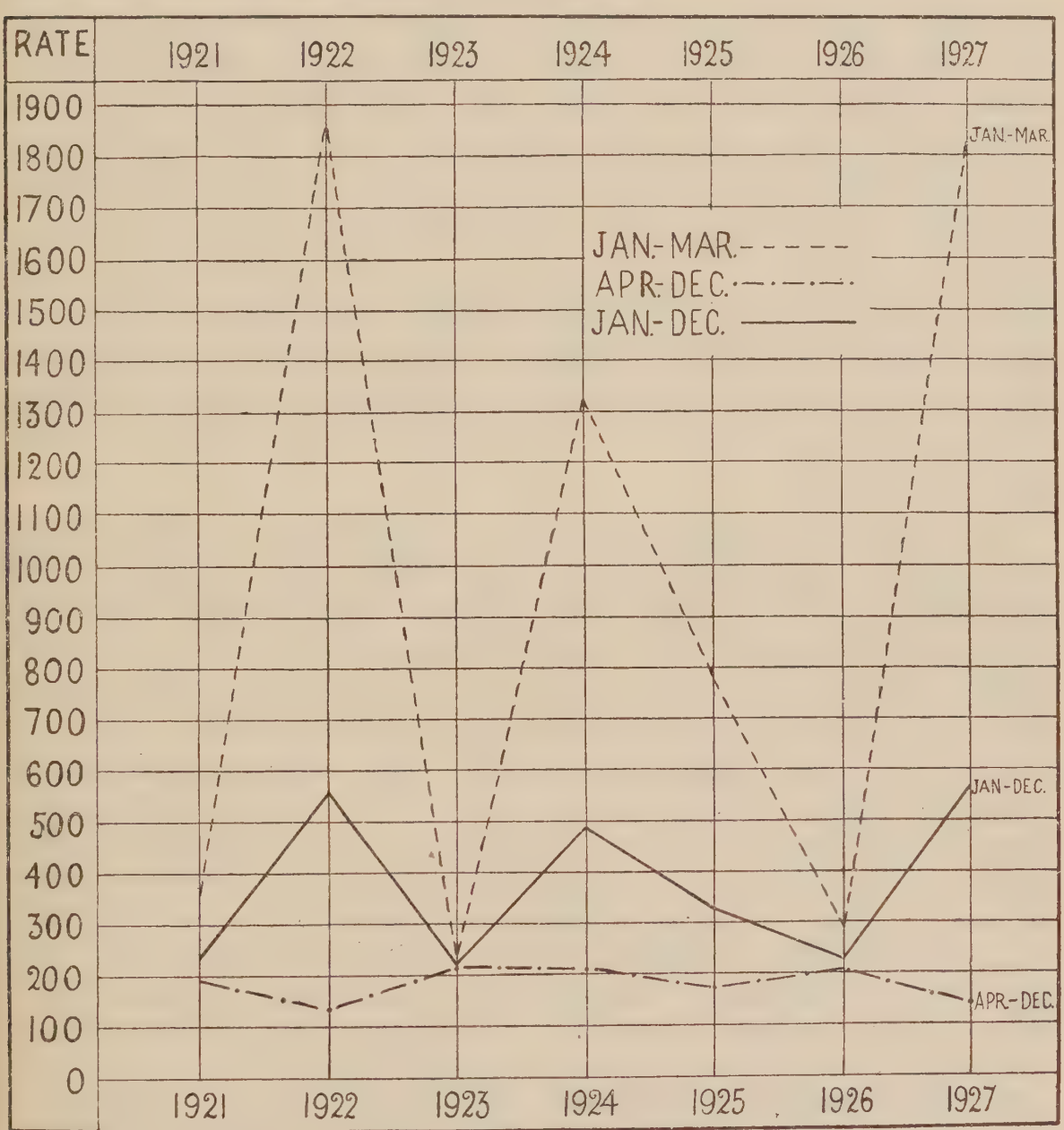
Even though the association between high mortality and concentration of mortality on the first quarter of the year during 1921–27 seems too complete for maintenance on the same scale in future years, the fact of its existence suggests that these deaths may be divided into two groups, one representing comparatively low and stable mortality during April—December, and the other of high and extremely variable mortality during January—March. Of course this division of the year is not equally appropriate in all years. In two years out of the seven dealt with, 1923 and 1926, the apex of the mortality curve did not fall in the first quarter at all, but in April or May. But the rates for these years were the lowest of the seven, perhaps partly because of this late seasonal incidence, and the rough division of the year into its first and its three remaining quarters suffices to bring out the salient features of the comparison.

During 1921–27 deaths occurring during the first three and last nine months of each year have corresponded to the following annual rates per million population—

	Jan.—March.	*April—December.*
1921	356 ..	198
1922	1,854 ..	133
1923	240 ..	214
1924	1,322 ..	213
1925	783 ..	175
1926	298 ..	206
1927	1,827 ..	147

These rates are compared in Diagram 4. This shows how little during the period dealt with the mortality of the last nine months of the year has varied in comparison with that of the first three, which has been mainly responsible for the yearly variations of the total rate. The contrast seems to suggest that two different types of mortality may be represented, the April—December deaths being of a type occurring every year to a relatively constant extent (and of course presumably quite as much during January—March as later in the year), and those of January—March of the more genuinely epidemic type whose occurrence is largely limited to certain years. It may probably be assumed that many deaths attributed to influenza are not caused by the genuinely epidemic type of disease implied by the very name "influenza."

Diagram 4.—Mortality from Influenza in England and Wales during 1921-1927. Comparison of the Rates for the first three and last nine months of each Year with the (crude) Rate for the whole Year.



Such deaths are likely to occur every year in numbers relatively constant in comparison with those caused by the epidemic type of disease by which some years are very seriously, and others

little, if at all, affected. On these lines it seems possible to explain the facts represented in Diagram 4 on the hypothesis that the January—March deaths are chiefly caused by the epidemic disease, while those during the rest of the year are not. If this is not the case some other explanation must be sought for the extraordinary contrast in yearly distribution between the deaths of the first three and last nine months.

The two groups of deaths can be distinguished from the year 1912 onwards, mortalities for 1912–20 corresponding to those plotted in Diagram 4 being as follows :—

	1912	1913	1914	1915	1916	1917	1918	1919	1920
Jan.–Mar. ..	311	310	281	691	226	528	169	4,016	435
Apl.–Dec. ..	93	130	122	144	238	83	3,939	260	233
Jan.–Dec. ..	147	175	161	281	235	194	2,997	1,199	284

This series of rates is dominated by the enormous figures for 1918 and 1919. The former year furnishes the only instance during 1912–27 of serious excess for the mortality of the latter part of the year over that of the first three months. Of the other three years of relatively high mortality in this series 1915, 1919, and 1920, the only one showing excess for the first three months comparable with those plotted in Diagram 4 is 1919. The record for 1912–20, accordingly, suggests that the features of this diagram may be considerably less characteristic of other periods than of that on which it is based, but the fact that influenza mortality has followed the course shown for these seven years following the great epidemic has been thought worthy of record.

22. **Acute Poliomyelitis.**—Fewer cases were notified and fewer deaths registered than in 1926. The number of deaths fell from 235 to 182, and that of notifications from 1,298 to 898, the case mortality rate being slightly increased at 202 per 1,000 (Table XXVI). But the notifications of 1926 exceeded those for any previous year, and the deaths of 1926 exceeded those of any earlier year except 1918 (237). The 182 deaths in 1927 exceeded those for all years since the disease was first distinguished in the tabulation for 1911 except six (1911, 1913, 1916, 1918, 1919, 1926) ; and the number of notifications was the largest for any year, except 1926, since both forms of the disease became notifiable in 1919 (Table 27). Table 24 shows that the seasonal distribution of notifications conformed to the usual type of autumnal prevalence, the maximum being in September.

23. **Encephalitis Lethargica.**—The 1,155 deaths allocated to this cause yield a mortality of 29 per million, a lower rate than during 1924–26, but higher than for any previous year since these deaths were first distinguished in 1918 (Table 5). The 1,615 notifications are exceeded by those of the same three

years, but their number also is higher than for any earlier year. The resultant fatality, 713 deaths per 1000 cases, is the highest yet recorded except 742 in 1922 (Table XXVI), but a number of deaths are now attributed to the remote effects of attacks which may have been notified years previously. A sudden increase of notifications in 1924 (from 1,025 to 5,039, the highest number so far reached) was accompanied by a fall in fatality from 517 to 279 per 1,000 cases, but since then the recorded fatality has increased each year.

As in the six preceding years, with which alone comparison can be made, mortality in 1927 was widely spread over all sections of life except old age. The highest rate was as before at 55–65. This applies to each sex in 1927, and has been the case for males, though not for females, in all past years. The rate at 0–5 was, as usual, in considerable excess of that at 5–15, which for males was lower than any other and for females than any except that at 75 and upwards. The age distribution of mortality described has so far been very constant from year to year, the rate for each sex in each year falling heavily from 0–5 to 5–15, after which it gradually rises again to a higher maximum in later life, generally at 55–65, and then becomes relatively trifling in old age. At all ages except 5–35 mortality was in considerable excess for males.

The distribution throughout the country of mortality from this cause is stated in Table XXXVI. Apart from comparatively low rates for London and for the rural districts of Wales this was on the whole very uniform.

Table XXXVI.—Encephalitis Lethargica, 1927 : Civilian Mortality per Million Living at All Ages.

	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	17	—	17
County Boroughs..	38	24	31	23	32
Other Urban Districts.	40	27	28	32	32
Rural Districts ..	34	26	29	19	28
All Areas	38	26	24	26	29

Table 18 shows that the deaths were widely scattered over the year, without much special incidence on any season, monthly totals ranging from 128 in March to 76 in September. Diagram 4 of the Review for 1925 shows a very definite maximum in May for deaths, and still more for notifications, during 1921–25, but this was largely due, especially for notifications, to the experience of 1924, when the excess already noted for that year was heavily concentrated on May, and deaths were similarly distributed.

25. **Other Epidemic Diseases.**—The number of deaths so classified in 1927 is 81, chiefly composed of 20 from German measles and 49 from varicella, particulars of which are included in Table 17. Of the other 12 deaths from miscellaneous infections (11 of which were of males), 3 were ascribed to blackwater fever, 3, including that of the only female, to glandular fever, 3 to kala-azar, 1 to trench fever, 1 to trypanosomiasis, and 1 to "obscure tropical infection." During 1921–26 these deaths included leishmaniasis 10, trench fever 10, trypanosomiasis 8, glandular fever 6, rat-bite fever 1, and sand-fly fever 1.

31–37. **Tuberculosis.**—The deaths assigned to tuberculous affections in the aggregate number 38,173—20,916 of males and 17,257 of females—648 more than those so classified in the previous year.

The standardized death-rate has increased from 942 per million in 1926 to 952; and its proportion to that from all causes has fallen from 9·3 to 9·0 per cent. This proportion (based on the standardized rates so as to exclude the effect of change in the composition of the population) has fallen in each decennium 1851–60 to 1911–20 from 16·4 per cent. in the former to 10·2 in the latter, and as the figure for 1927 is the lowest since 1920 it is probable that the share in the total mortality attributed to tuberculosis was never so low in any previous year.

The increase of mortality in 1927 was confined to the first quarter of the year, in which 706 more deaths occurred than in the first quarter of 1926, with a corresponding decrease of 58 for the remaining three quarters. It has been seen from Diagram 4 that mortality from influenza increased very greatly in this quarter of 1927. Increase of mortality assigned to tuberculosis along with and evidently resulting from increase of influenza mortality was demonstrated for the years 1918 and 1919 in the Registrar-General's Report for the latter year (Diagram II), many deaths of tuberculous patients from influenza being allocated to tuberculosis. And the suspicion that this occurred also in 1927 is confirmed when it is noted from Table 18 that for both diseases the excess of deaths in 1927 over those of 1926 was highly concentrated on the month of February, 65 per cent. of the 1927 excess from influenza, and 84 per cent. of that from tuberculosis, occurring in that month. It may therefore be inferred with much confidence that the small increase of tuberculosis mortality in 1927 (Table XXXIX) is entirely attributable to the outbreak of influenza in the first quarter of the year. This inference is confirmed by similar comparisons for other recent years. Diagram 5 shows that 1927 is the first year since the great influenza epidemic to record an increase of mortality from all forms of tuberculosis jointly. But three other years, 1921, 1922, and 1924, experienced some increase of mortality from phthisis. Influenza mortality was low in 1921 and so cannot account for the phthisis increase in that year, but both 1922 and 1924 were years of high influenza mortality

(Table 6). But in 1922 the increase from both influenza and phthisis was concentrated on the month of January (72 per cent. of the year's increase in deaths from influenza, and 207 from phthisis, occurring in that month), and in 1924 the increase from both causes occurred chiefly in February and March, these months accounting (almost equally) for 90 per cent. of that from influenza and 151 of that from phthisis. Such increases, therefore, as have occurred since 1921 in mortality either from tuberculosis or from phthisis, may be seen to be entirely attributable to influenza.

Table XXXVII.—England and Wales : Mortality from Tuberculosis (All Forms) per Million Population, 1912–14, 1926, and 1927.

	Males.			Females.			Persons.		
	1912–14	1926	1927	1912–14	1926	1927	1912–14	1926	1927
All Ages { Crude	1,571	1,105	1,112	1,169	827	842	1,364	961	972
All Ages { Standardized ..	1,542	1,058	1,061	1,174	839	854	1,349	942	952
0–	2,081	1,025	1,012	1,717	840	819	1,900	934	916
5–	572	339	329	580	344	336	576	341	332
10–	447	278	259	687	407	417	568	342	338
15–	939	764	796	1,226	1,162	1,196	1,084	962	995
20–	1,501	1,268	1,221	1,381	1,432	1,433	1,439	1,351	1,328
25–	1,816	1,380	1,337	1,403	1,176	1,222	1,599	1,269	1,275
35–	2,189	1,621	1,620	1,374	872	884	1,767	1,216	1,221
45–	2,384	1,626	1,750	1,185	680	703	1,762	1,128	1,196
55–	2,213	1,346	1,317	967	563	592	1,553	935	936
65–	1,378	869	936	752	457	476	1,031	642	683
75 and upwards	586	302	453	440	311	304	498	308	362

The increase in 1927 is seen from Table XXXVII to have been common to both sexes and to most ages. But it applies more to females than to males, and to maturity than to youth. The rapid fall long in progress during early childhood continues, the rates for each sex at 0–5 and 5–10 being lower in 1927 than

Table XXXVIII.—England and Wales: Mortality from Tuberculosis in 1927, per cent. of that in 1912–14.

	Males.	Females.	Persons.
All Ages { Crude	71	72	71
All Ages { Standardized.	69	73	71
0–	49	48	48
5–	58	58	58
10–	58	61	60
15–	85	98	92
20–	81	104	92
25–	74	87	80
35–	74	64	69
45–	73	59	68
55–	60	61	60
65–	68	63	66
75–	77	69	73

in 1926, though in that year the rates at 0–5 were less than half those for the pre-war minimum period of tuberculosis mortality during 1912–14, and at 5–10 not much over half. But at all ages between 10 and 75 the rates for females show some increase in 1927, while the trifling total increase for males applies to four of the eight age-groups distinguished from 15 onwards.

The distribution by sex and age of the fall in mortality since its pre-war minimum during 1912–14 is set forth in Table XXXVIII, which shows that the total fall of 29 per cent. since that period is unaffected by standardization for persons of both sexes, but slightly increased for males and decreased for females. The decline is greatest at 0–5 and least at 15–25, the only increase shown in the table being one of 4 per cent. for females aged 20–25. At this age, which has been that of highest mortality for females from 1918 onwards, excess for that sex over the 1912–14 standard has been continuous from 1916 onwards. Females aged 15–35, indeed, form the only section of the population whose tuberculosis mortality has not materially declined of recent years. This has resulted in the shifting of the maximum mortality age for females from 35–45, where it stood for about 25 years before 1916, to 20–25. This change was very sudden, for in 1917 the rate was highest at 15–20, but since then the maximum has remained at 20–25. If this relative increase of mortality in youth were a consequence, as has been suggested, of war deprivation during adolescence resulting in loss of resistance later in life, it might be expected that it would be the women who were so exposed whose death-rate would be relatively high as a result. But if this were so there would be a progressive shifting of the age of maximum mortality towards its pre-war position of 35–45 as time elapsed, whereas the women whose deaths are now causing the 20–25 maximum were young children when shortage of food was greatest. But instead of a gradual change we have to deal with a sudden one, which actually went further in 1917, the year after its start, than at any later date. And as the mortality of females aged 10–20, which had previously shared the general reduction, had begun to increase even before the war, it seems probable that the change may not be due to war environment at all.

The recent history of tuberculosis mortality in this country, since the time of its large apparent increase by the great influenza epidemic of 1918–19, is set forth in Table XXXIX and in Diagram 5 constructed from it. The death-rates shown for total and for respiratory tuberculosis are in each case compared with those extrapolated from the curve of declining mortality for the years 1866–1914, when, as discussed in the Review for 1921, the rate of progress recorded was remarkably constant. The diagram shows that mortality from respiratory tuberculosis has been declining during recent years at much the same rate as during the half century before the war, after first recovering by 1920 the ground lost (as compared with the extrapolated

rates) during the war and the epidemic of influenza immediately after. The agreement is closest for males, whose mortality in 1927, even though higher than in 1926, remains somewhat below that predictable from the curve. The rate for females practically coincided with the curve value in 1926, after excess varying from 6 to 11 per cent. during the six preceding years, but the influenza mortality of February 1927 has re-established an excess of 5 per cent.

For tuberculosis as a whole agreement is not so close, the recorded rate for persons of both sexes being now 12 per cent. in excess. But the rate of fall for non-respiratory tuberculosis was increasing so fast as 1914 approached that prolongation of the 1866–1914 curve provides a standard considerably severer for total than for respiratory tuberculosis, and which, as a result of the increased mortality of 1927, is now more exceeded by the recorded rate than in any earlier year in Table XXXIX.

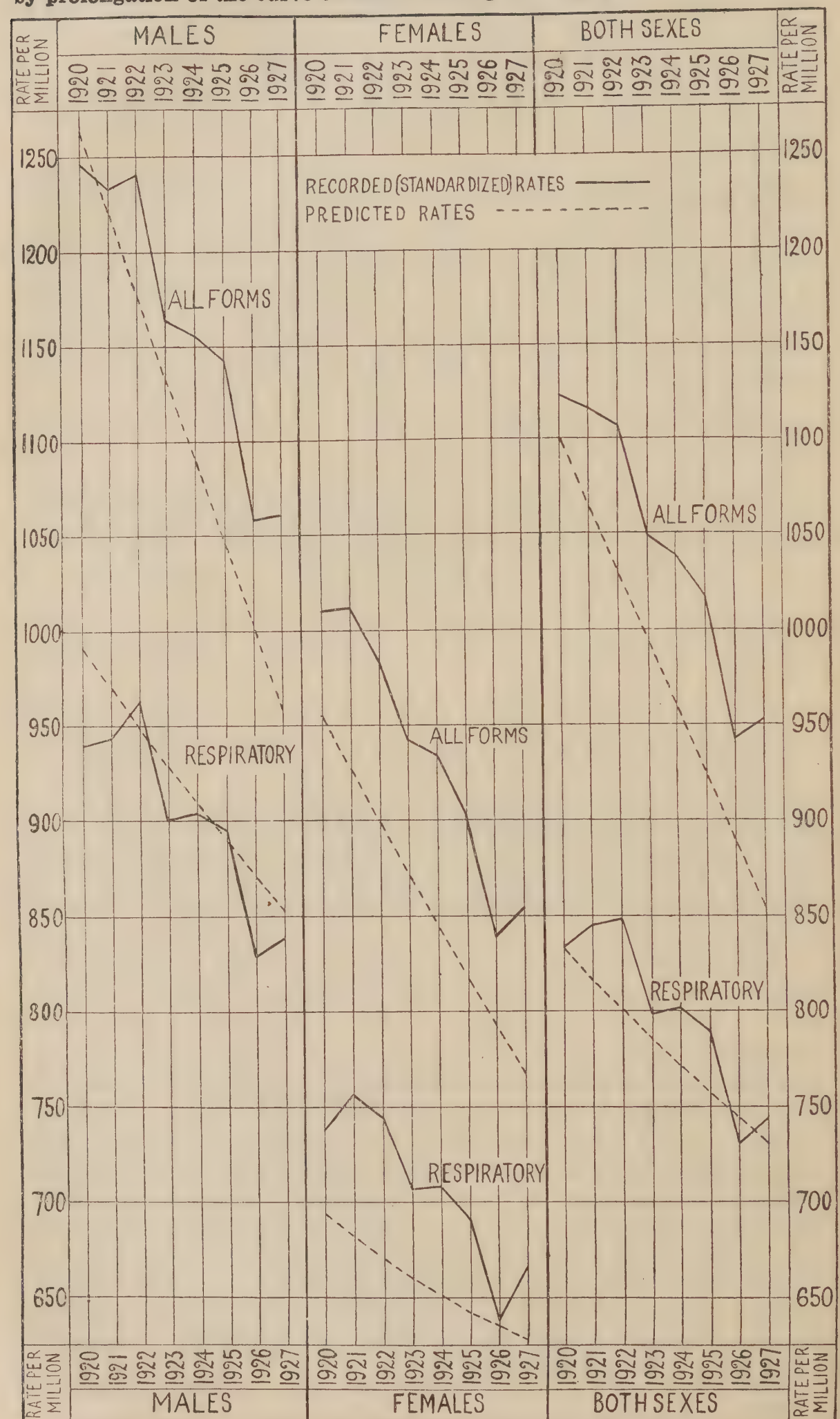
Table XXXIX. England and Wales. Mortality from Tuberculosis in each Year 1920–27.

Standardized Rates per Million and Comparison of these with those predictable on the assumption of continuance of fall since 1866-1914 at the same rate as during that Period (see Review for 1921, Diagram 4).

	Recorded Mortality (Standardized).						Mortality calculated by Prolongation of the Curve of decline during 1866–1914.						Recorded Mortality per cent. of calculated.					
	All Forms.			Respiratory.			All Forms.			Respiratory.			All Forms.			Respiratory.		
	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.
1920	1,248	1,010	1,123	940	737	833	1,264	955	1,101	991	693	833	99	106	102	95	106	100
1921	1,233	1,011	1,117	944	757	845	1,221	927	1,065	970	681	816	101	109	105	97	111	104
1922	1,241	985	1,107	963	745	848	1,177	899	1,029	949	670	801	105	110	108	101	111	106
1923	1,164	942	1,049	900	707	798	1,134	871	994	929	660	785	103	108	106	97	107	102
1924	1,156	934	1,039	904	708	801	1,090	844	958	909	651	771	106	111	108	99	109	104
1925	1,143	904	1,017	895	691	788	1,046	817	923	890	642	756	109	111	110	101	108	104
1926	1,058	839	942	829	638	730	1,002	791	888	871	635	743	106	106	106	95	100	98
1927	1,061	854	952	838	660	744	958	766	853	852	628	730	111	111	112	98	105	102

While the phthisis rate is holding its ground remarkably as compared with the curve, the total rate, as judged by this standard, has lost ground considerably in 1927, and perhaps, in view of the severity of the standard in its case, is unlikely to fully recover the loss. Disproportionate fall during the last 15–20 years in mortality from non-respiratory tuberculosis (45·8 per cent. from the 1911–15 level for non-respiratory as compared with 26·0 per cent. for respiratory tuberculosis in 1927) has resulted in large reduction of the share taken by non-respiratory in total mortality (from 27·6 per cent. to 21·8), and if this continues the weight of the component of tuberculosis mortality, the rate for which has of late years been falling fastest, must on that account become progressively less, so that the rate of fall for total must be expected to approximate to that for respiratory tuberculosis, of which it will be increasingly composed.

Diagram 5.—Mortality from Tuberculosis in each Year, 1920-1927, in England and Wales. Standardized Rates compared with those calculated by prolongation of the curve of decline during 1866-1914.



The 31,066 deaths from respiratory tubercle form 81 per cent. of the total allocated to tuberculosis, and 6·4 per cent. of those from all causes.

The distribution of this mortality by class of area as well as by sex and age is shown in Table XL.

The relation of phthisis mortality to urbanization is expressed by the decline of the standardized rate for persons from 84 per 100,000 in London and 88 in the county boroughs to a minimum of 60 in the rural districts, the latter being 20 per cent. below average and the county borough maximum 17 per cent. above it.

Table XL.—Tuberculosis of the Respiratory System.—Civilian Mortality at Different Ages, 1927.

	Mortality per 100,000 Civilians Living at Various Age Groups.						Ratio per cent. of Mortality in England and Wales.				
	England and Wales.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	All Urban Districts.	London.	County Boroughs.	Other Urban Districts.	Rural Districts.	All Urban Districts.
MALES.											
All Ages—											
Crude	92	120	113	80	61	100	130	123	87	66	109
Standardized ..	84	107	103	74	59	91	127	123	88	70	108
0—	16	12	21	15	10	17	75	131	94	63	106
5—	9	7	11	8	7	9	78	122	89	78	100
15—	85	111	97	82	58	92	131	114	96	68	108
25—	124	132	140	110	113	126	106	113	89	91	102
35—	153	197	185	133	106	165	129	121	87	69	108
45—	166	232	221	136	88	186	140	133	82	53	112
55—	123	179	169	101	65	140	146	137	82	53	114
65—	82	152	99	70	51	94	185	121	85	62	115
75 & up ..	38	75	52	23	33	41	197	137	61	87	108
FEMALES.											
All Ages—											
Crude	68	66	77	63	60	70	97	113	93	88	103
Standardized ..	66	62	75	62	61	67	94	114	94	92	102
0—	13	8	21	9	9	14	62	162	69	69	108
5—	17	11	21	15	15	17	65	124	88	88	100
15—	116	114	130	110	104	119	98	112	95	90	103
25—	112	100	120	109	114	112	89	107	97	102	100
35—	81	72	91	73	79	81	89	112	90	98	100
45—	63	70	75	54	53	65	111	119	86	84	103
55—	51	59	60	47	38	54	116	118	92	75	106
65—	39	39	38	41	36	40	100	97	105	92	103
75 & up ..	20	27	16	21	18	20	135	80	105	90	100
PERSONS.											
All Ages—											
Crude	79	91	94	71	61	84	115	119	90	77	106
Standardized ..	75	84	88	68	60	79	112	117	91	80	105
0—	14	10	21	12	10	16	71	150	86	71	114
5—	13	9	16	12	11	13	69	123	92	85	100
15—	101	112	114	96	80	106	111	113	95	79	105
25—	118	114	129	110	113	118	97	109	93	96	100
35—	114	128	134	101	91	119	112	118	89	80	104
45—	111	144	145	93	69	122	130	131	84	62	110
55—	85	115	112	73	52	95	135	132	86	61	112
65—	58	88	65	54	43	63	152	112	93	74	109
75 & up ..	27	44	29	22	25	28	163	107	81	93	104

As in previous years (1921–26) for which this comparison has been made, the experience of females in London has been much superior to that of males, their rate being 6 per cent. below average, whereas that for London males is 27 per cent. in excess. Urbanization in fact, increases phthisis mortality much more for males than for females. As in other years also, this applies particularly to the higher ages. The contrast between a low early mortality in London and a high rate at 0–5 in the county boroughs is also a recurrent feature, the recorded mortality of early life generally being consistently much higher in the county boroughs than in London, and that of later life lower. Taking the London rate as 100 at each age, the ratios for the county boroughs (both sexes) for each of the five recent years for which this table has been published are as follows :—

	1922	1923	1924	1926	1927
0– ..	164	129	175	244	210
5– ..	157	146	140	160	178
15– ..	101	109	108	108	102
25– ..	106	108	108	111	113
35– ..	106	104	107	115	105
45– ..	85	91	88	99	101
55– ..	75	90	86	89	97
65– ..	67	81	93	80	74
75– ..	41	72	53	75	66

This relationship, however, has not existed in its present form for very long. In both 1911 and 1913, for which similar tables were published, the London rate at 0–5 was in considerable excess of that for the county boroughs. But in each of those years, as recently, London mortality was uniformly higher throughout later life, the excess setting in earlier, at 30 instead of 55.

Table 7 shows that the only administrative counties returning death-rates from phthisis of over 1 per 1,000 were in Wales, Cardigan coming first, and Merioneth, Caernarvon, Anglesey and Pembroke, in the order named, also exceeding the same limit. In England the highest (crude) rate was 912 per million in London, and the lowest (excluding counties of less than 100,000 population) 434 in Bucks. The highest county borough rates were those for Salford, 1,401, Cardiff, 1,277, and Gateshead 1,217, and of these three Salford returned the highest rate also in 1926, and Gateshead the second highest.

The death-rates from all the forms of non-respiratory tuberculosis mortality distinguished continue to fall rapidly, as may be seen from Table 5, although the most important of them, that from tuberculosis of the nervous system, has, for the first time in the eleven years covered by the table, failed to register a fall in 1927. But even in its case the rate of 73 per million for 1926 and 1927 is little more than half that of ten years earlier. The greatest fall of all is in mortality from peritoneal and intestinal tuberculosis, the rate for which is now only about one-third

what it was ten years ago. The rapidity with which non-respiratory tuberculosis mortality in general continues to fall may be gathered from Table XXXIX. During the eight years covered by this table the standardized rate for both sexes has fallen without interruption from 290 to 208 per million or by 28 per cent., whereas that from the respiratory form of the disease has fallen, with four interruptions of the fall, by 11 per cent. During these eight years the proportion of non-respiratory to total (standardized) mortality has fallen from 26 to 22 per cent.

38. Syphilis.—Table 5 shows that mortality ascribed to this cause, after falling very steadily from a maximum for recent years of 60 per million in 1917 (reduced to 57, much the same as in 1913 and 1914, if the rate is based on the total population, including non-civilian males) to 30 in 1925, rose again to 32 in 1926 and to 36 in 1927. But Table 9 shows that the rapid fall in infancy, when a large proportion (47 per cent. in 1926 and 36 in 1927) of the deaths referred to this cause occur, was continued in 1927, and comparison of Table 17 for the two years shows increase of deaths for males at nearly all, and for females at most, ages over 20 in 1927. At ages over 45 this amounts to 51 per cent. for each sex. This suggests that something has occurred to increase attribution of deaths of adults to this cause in 1927, this increase, together with the continued fall in the infant death-rate, accounting for the sudden decrease in the proportion of infant to total deaths.

It seems probable that this influence may be found in the new form of death certificate (page 147), which came into use in the middle of the year, and if so future years will be more affected than 1927, of which only the latter half was concerned by the change. It may be that the new form has directed the attention of certifying practitioners in increased degree to the remoter antecedents of the immediate cause of death, and in this connection it may be significant that the increase does not apply to infancy. Moreover, evidence in favour of association of the increase of these deaths with the new form of death certificate is furnished by Table 18, which shows that in the first six months of 1927 these deaths numbered 648, as compared with 650 in 1926, so that the increase was confined to the second half of the year, during which the new certificate was in use.

But if the change in the certificate accounts for the increased mortality of adults from syphilis it is hard to see how it can explain simultaneous increase of the rates for diseases generally or always of syphilitic origin. Yet that for general paralysis of the insane has risen from 37 per million in 1926 to 39, for tabes dorsalis from 19 to 20, and for aneurysm from 26 to 29. In view of these increases, any definite conclusion as to the significance of the increase in mortality attributed to syphilis would as yet be premature.

The peculiar sex ratio pointed out for syphilis deaths in 1926 applies also to 1927, there being excess for males of 29 per cent. at 0–20, and 104 per cent. at ages over 35, but excess of 14 per cent. for females at 20–35 (Table 17).

42 (1) **Vaccinia.**—One death was so returned in 1927, as also in 1926. This was of a female, one month of age, death being ascribed to "cellulitis after vaccinia, and broncho-pneumonia." Vaccination was mentioned on six certificates relating to other deaths during the year. Of these four were of infants from septicaemia from infection of vaccination wounds, one of an infant from tetanus of similar origin, and one of an infant from erysipelas "following, but not due to vaccination" (inquest). These deaths have accordingly been classed to septicaemia (4), tetanus, and erysipelas.

43–49. **Cancer.**—The deaths ascribed to cancer during 1927 number 54,078—25,048 of males and 29,030 of females. For both sexes these numbers are the highest yet recorded.

Of these deaths 44,274 were referred to carcinoma, 2,817 to sarcoma, and 6,987 to "cancer" not otherwise defined. For each sex the number of deaths from carcinoma and from sarcoma is the largest, and that from undefined "cancer" the smallest since the record of this distinction started in 1901. The deaths of males from sarcoma numbered 1,624, yielding a crude death-rate of 86 per million, and those of females 1,193, the corresponding rate being 58. These figures are on record for each year from 1897 onwards, and in each of these years the sarcoma death-rate has been higher for males, though the excess has gradually increased from very small dimensions at the commencement of the century (males 55, females 49, in 1901–05) to that of 48 per cent. in 1927. During the same period Table XLI shows similar relative increase in the mortality of males from malignant disease generally, an excess for females of 25 per cent. in the standardized rate for 1901–05 being replaced in 1924 and later years by male excess, which in 1927 amounts to 3 per cent.

The standardized death-rate for males in 1927 amounts to 1,018 per million, and that for females to 984. The first of these rates is higher than for any previous year except 1925, but the second is below those for the years 1924–26 and 1913 (Table XLI).

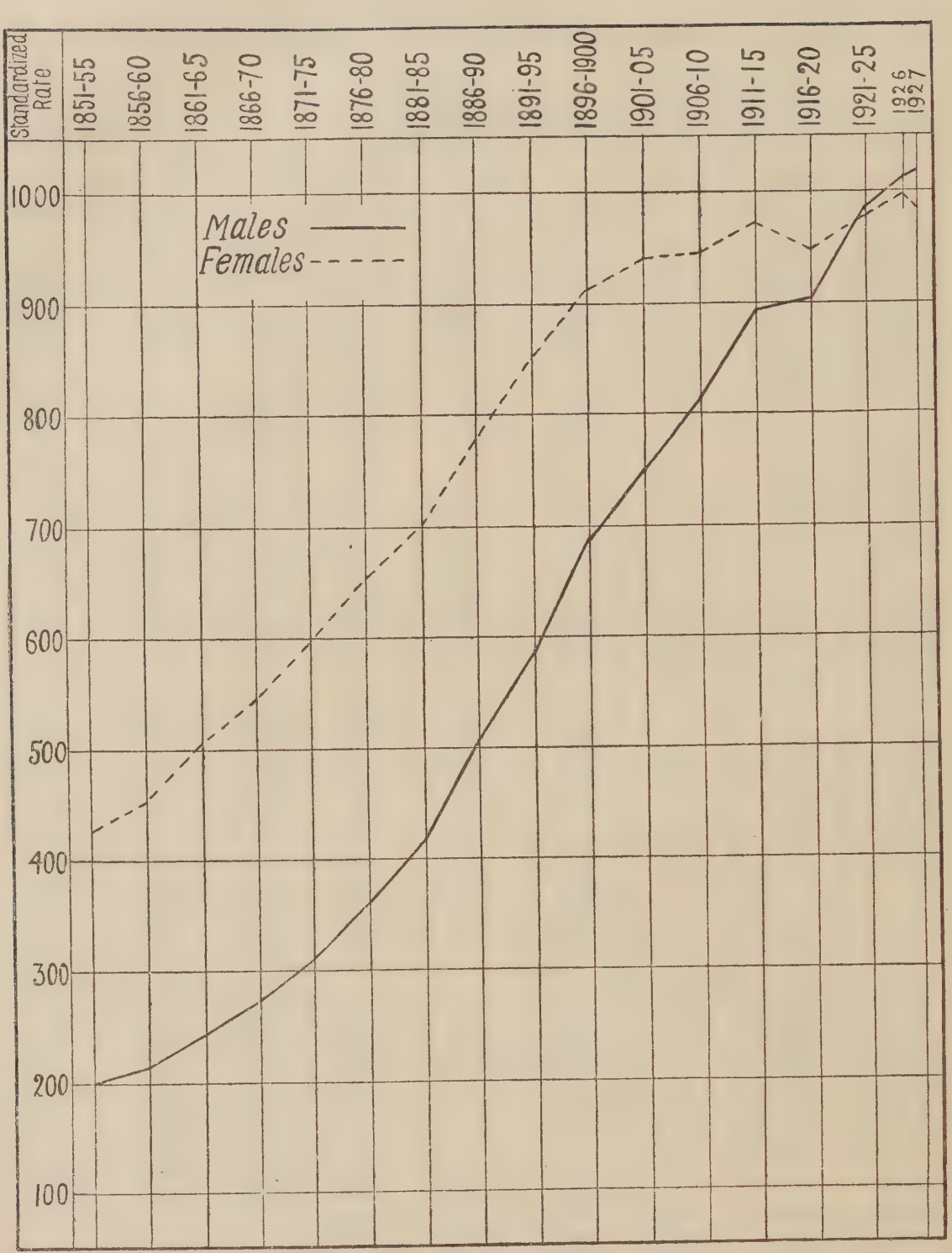
Diagram 6, derived from Table XLI, traces the course of standardized cancer mortality in each sex from the middle of the nineteenth century to the present time. The record reveals two phases in the recorded history of cancer mortality, the first up to the end of last century and the second during the present one. During last century the rate for each sex increased very steadily for the quinquennial periods plotted, and to practically the same extent for each sex, the excess for 1896–1900 over 1851–55 being 488 per million for males and 483 for females.

Table XLI.—Cancer.—Standardized Death-rates for Males and Females by Decennia, Quinquennia and Single Years from 1851 to 1927.

Year.	Standardized Rate per million population.		Year.	Standardized Rate per million population.		Year.	Standardized Rate per million population.	
	Males.	Females.		Males.	Females.		Males.	Females.
1851–60	207	440	1861	233	495	1896	656	873
1861–70	255	522	1862	236	492	1897	674	897
1871–80	333	619	1863	240	487	1898	692	907
1881–90	465	739	1864	251	523	1899	710	936
1891–00	639	882	1865	242	507	1900	710	938
1901–10	784	942						
1911–20	897	959	1866	253	520	1901	727	944
			1867	261	525	1902	727	935
1851–55	200	428	1868	266	539	1903	758	945
1856–60	214	452	1869	282	554	1904	761	940
1861–65	243	504	1870	281	566	1905	773	933
1866–70	272	545						
1871–75	310	594	1871	287	560	1906	806	948
			1872	298	564	1907	788	937
1876–80	361	653	1873	306	586	1908	813	930
1881–85	418	701	1874	315	613	1909	822	962
1886–90	509	776	1875	328	622	1910	839	944
1891–95	585	850						
1896–00	688	911	1876	332	621	1911	866	953
			1877	351	637	1912	881	968
1901–05	750	939	1878	366	654	1913	905	990
1906–10	814	944	1879	361	660	1914	909	977
1911–15	892	971	1880	380	664	1915	897	969
1916–20	902	948						
1921–25	981	978	1881	392	672	1916	901	969
			1882	394	696	1917	904	958
			1883	414	707	1918	885	942
			1884	439	710	1919	899	935
			1885	448	718	1920	921	939
1851	183	413	1886	464	737	1921	947	970
1852	192	424	1887	499	753	1922	958	965
1853	205	425	1888	493	767	1923	972	979
1854	205	435	1889	537	796	1924	999	985
1855	211	441	1890	550	821	1925	1,023	991
1856	204	421	1891	556	845	1926	1,011	995
1857	205	449	1892	566	828	1927	1,018	984
1858	218	450	1893	587	846			
1859	214	469	1894	592	841			
1860	225	463	1895	624	890			

But this equality of increase implied a reduction of the proportionate excess for females from 114 per cent. on the smaller figures of 1851–55 to 32 on those of 1896–1900. After 1900 the rate of increase slackened greatly for females, and somewhat, but much less, for males, with the result that by 1924 addition of a further 311 per million to the rate for males as against only 74 to that for females had placed the former for the first time in excess of the latter, and this excess for males has been maintained in each of the three subsequent years.

Diagram 6.—England and Wales: Standardized Mortality of Males and Females from Cancer, 1851-55 to 1927.



The quinquennial rates for each sex have increased without interruption except for a fall for females in 1916–20 coinciding with great reduction in the rate of increase for males. As this was the period of maximum war disturbance it seems possible that the conditions then prevailing may have interfered to some extent with recognition of cancer as the cause of certain deaths really due to it. Whether from this or other cause the rate for each sex fell during the war, that for males from 909 in 1914 to 885 in 1918, and that for females from 990 in 1913 to 935 in 1919, since when increase for males has been interrupted only in 1926, and for females in 1922 and 1927.

It is only the standardized rate which shows excess since 1923 for males. Owing to the greater average age of the female population the crude rate for females is still higher than that for males, though the excess is now small compared with what it used to be (7 per cent. in 1927, and 34 per cent. in 1901–10, Table XLII). As a rule only crude rates can be compared for the sexes in other countries, but in some cases, *e.g.* the United States, these display decreasing excess for females as time goes on, and in at least one instance, that of Switzerland, an earlier excess, even of crude mortality, for females, has been changed into later excess for males, as in the case of the standardized rates for England and Wales.

This tendency to conversion of an earlier female into a later male excess in other countries as well as this may probably be held to support the view that the change has resulted from improvement in diagnosis, a real excess for males having been concealed till recently by failure to recognize the true nature of a larger proportion of male deaths from cancer owing to the lesser accessibility of the growths in that sex. As classified in Table XLIV of the Review for 1926 practically half the mortality of females in 1911–20 was from cancer of accessible sites, but less than one-third that of males, and increase since 1920 has been much greater in both sexes from growths of inaccessible than of accessible sites. If this change is to be explained as the result of improvement in diagnosis it is evidently likely to apply chiefly to the sex providing the larger field for its application in the shape of inaccessible growths, in which case the conversion of female into male excess of cancer mortality from 1924 onwards may well be apparent rather than real. But it remains to be seen whether the tendency of the present century to greater increase for males persists.

Table XLII shows, for England and Wales, and for different classes of its local areas distinguished by urbanization, the standardized death-rate from malignant disease for each sex and the group rates for persons of different ages from which these are derived, for 1927, and, as a basis of comparison for England and Wales only, similar rates for 1926 and for 1901–10 and 1911–20.

It shows that the standardized mortality of males decreased with decreasing urbanization, from a maximum of 119 per 100,000 in London to a minimum of 81 in the rural districts.

The regularity of this gradation has not suffered a single interruption in any one of the ten years, 1911–14 and 1922–27, now available for the comparison. For females, on the other hand, the highest rate has been recorded by London in only four of the ten years, and by the county boroughs in the other six, but in each of the ten the county borough rate, as for males, has exceeded

that for the urban districts, and this again has exceeded the rural rate. But the excess of the city over the rural rates is, as usual, much greater for males, a fact which, in view of the greater accessibility of cancer in the female, supports the view that these differences are largely due to fuller recognition of the nature of the less obvious cases where facilities for this recognition are greatest.

Table XLII.—Cancer.—Death-rates per 100,000 Living, 1901–10, 1911–20, 1926 and 1927.

Age.	England and Wales.				1927.				
	1901–10	1911–20	1926.	1927.	London.	County Boroughs	Other Urban Districts	Rural Districts	All Urban Districts
MALES.									
All Ages—									
Crude ..	77	99	131	133	152	135	131	128	136
Standardized	78	90	101	102	119	115	100	81	109
0– ..	2	2	3	2	2	3	2	2	2
15– ..	4	4	4	5	6	5	6	4	5
25– ..	11	11	12	12	10	12	13	10	12
35– ..	41	42	40	42	49	45	40	36	44
45– ..	155	168	164	161	199	179	151	125	170
55– ..	390	444	478	467	534	542	464	343	506
65– ..	668	800	969	994	1,190	1,124	983	793	1,068
75 and up	787	973	1,291	1,317	1,523	1,465	1,304	1,158	1,394
FEMALES.									
All Ages—									
Crude ..	103	117	141	142	147	139	141	144	141
Standardized	94	96	99	98	105	106	97	87	102
0– ..	2	2	3	2	3	2	2	2	2
15– ..	3	3	4	4	3	3	4	3	4
25– ..	17	16	16	16	15	17	15	17	16
35– ..	85	79	74	76	79	83	75	65	79
45– ..	232	227	212	208	226	226	199	183	214
55– ..	441	438	428	417	450	451	411	359	433
65– ..	666	711	798	774	810	850	776	663	810
75 and up	790	919	1,126	1,171	1,248	1,207	1,171	1,103	1,196
PERSONS.									
All Ages—									
Crude ..	90	108	136	138	149	137	136	136	139
Standardized	87	93	100	100	111	109	98	84	105
0– ..	2	2	3	2	3	2	2	2	2
15– ..	4	4	4	4	4	4	5	4	4
25– ..	14	13	14	14	13	15	14	14	14
35– ..	64	61	58	61	66	66	59	51	63
45– ..	195	198	189	186	214	204	177	155	193
55– ..	417	441	452	441	489	494	436	351	467
65– ..	667	751	875	873	975	971	867	725	924
75 and up	789	940	1,190	1,228	1,345	1,301	1,221	1,127	1,269

Cancer by Site.—The parts of the body affected by fatal cancer in 1927 are shown in Table XLIII in greater detail than that provided by the international classification, six out of its seven headings (Nos. 43–49) relating to cancer being subdivided according to a scheme approved by the Director of the Imperial Cancer Research Fund.

In addition to Table XLIII, which is continued from previous Reviews, a new table (No. XLIV) has now been prepared in order to show the recent history of mortality of males and females from cancer of the more important sites. In view of the importance of site distinction and of the misleading nature of crude cancer death-rates at a time when the proportion of persons of the cancer ages is rapidly increasing, all the rates in this table have been standardized to render those for different periods and sexes comparable with each other.

Tongue.—The decline since 1919 in the death-rate of males, to which attention was drawn in last year's Review, has been replaced by a definite increase in 1927. None the less Table XLVI of the Review for 1926 shows that the rate of 46·6 in 1927 is lower than for any of the years 1909–25

Stomach.—Excess of mortality for males is seen to be very much less than for the higher portions of the alimentary canal, where it is remarkably great, but even here it has increased from 26 per cent. in 1901–10 to 34 in 1911–20 and 46 in 1927. For

Table XLIII.—England and Wales, 1927—Sites of Fatal Cancer.

	All Ages.	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
	MALES.															
All Sites	**25,048**	**54**	**48**	**174**	**324**	**340**	**698**	**1,309**	**2,349**	**3,387**	**4,229**	**4,476**	**3,885**	**2,390**	**999**	**386**
Lip	283	—	—	—	—	—	1	5	14	19	38	48	50	52	34	22
Tongue	1,179	—	—	—	1	4	20	47	123	218	230	224	171	93	35	13
43 Mouth and tonsil ..	735	—	—	2	5	8	17	36	74	131	127	136	112	54	25	8
Jaw	516	—	3	5	11	8	13	24	51	83	85	73	74	48	26	12
Total	2,713	—	3	7	17	20	51	112	262	451	480	481	407	247	120	55
Pharynx	330	1	—	2	4	3	17	26	38	53	57	61	42	19	3	4
Œsophagus	1,542	—	—	—	1	3	20	65	164	276	322	274	232	125	45	15
Stomach	5,695	—	—	8	52	90	182	388	582	761	1,007	1,033	872	495	157	68
44 Liver and gall bladder..	1,576	2	1	2	8	16	45	62	127	181	245	322	280	181	67	37
Total	9,143	3	1	12	65	112	264	541	911	1,271	1,631	1,690	1,426	820	272	124
Mesentery and peritoneum	111	5	3	7	6	5	7	9	6	12	18	16	9	6	1	1
Intestines	3,244	—	2	5	26	39	77	137	225	399	494	628	582	394	183	53
45 Rectum and anus ..	2,613	—	—	12	35	28	40	100	218	338	454	531	421	278	123	35
Total	5,968	5	5	24	67	72	124	246	449	749	966	1,175	1,012	678	307	89
47 Breast	41	—	—	—	—	—	1	3	5	3	6	7	6	4	4	2
Penis	154	—	—	—	—	3	3	5	10	18	23	24	21	28	13	6
Scrotum	78	—	—	—	—	1	2	6	13	16	14	14	6	5	1	—
48 Other skin	589	1	—	4	11	8	9	20	38	50	65	73	98	90	76	46
Total	821	1	—	4	11	12	14	31	61	84	102	111	125	123	90	52
Larynx	809	—	—	—	4	3	10	35	119	131	173	158	98	51	22	5
Lung and pleura ..	666	2	—	9	27	21	56	80	97	105	112	79	53	19	6	—
Pancreas	753	—	—	3	8	6	30	50	72	120	128	133	109	63	23	8
Kidneys and suprarenal glands	285	20	13	10	7	9	8	25	36	49	34	34	25	10	5	—
Bladder	753	—	1	2	2	13	11	19	70	88	115	149	146	93	33	11
Prostate	1,172	—	—	—	1	2	1	12	43	87	190	243	300	191	80	22
49 Testis	144	2	1	16	28	15	21	9	9	3	12	8	7	7	4	2
Brain and meninges ..	82	1	7	7	13	2	10	9	14	9	7	2	—	1	—	—
Bones (jaw excepted)..	393	8	9	49	28	15	24	27	34	38	46	42	46	15	9	3
Other specified organs..	828	12	6	23	41	33	52	76	109	119	137	108	68	29	10	5
Abdominal cavity, organ unspecified	82	—	—	—	1	1	5	8	10	7	12	8	14	8	6	2
Other and undefined ..	395	—	2	8	4	4	16	26	48	73	78	48	43	31	8	6
Total	6,362	45	39	127	164	124	244	376	661	829	1,044	1,012	909	518	206	64

Table XLIII.—England and Wales, 1927—Sites of Fatal Cancer—*cont.*

		All Ages.	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
		FEMALES.															
	All Sites	29,030	55	56	125	527	743	1,478	2,251	3,056	3,502	4,006	4,185	3,770	3,030	1,541	705
43	Lip	29	1	—	—	—	—	—	1	1	—	3	4	1	6	8	4
	Tongue	125	—	—	—	2	3	6	6	21	13	22	12	15	13	9	3
	Mouth and tonsil ..	97	—	2	2	2	—	4	6	10	7	21	11	13	11	5	3
	Jaw	179	1	1	1	9	7	6	10	16	20	20	27	21	22	13	5
	Total	430	2	3	3	13	10	16	23	48	40	66	54	50	52	35	15
44	Pharynx	82	1	1	1	2	2	6	10	10	7	6	14	11	6	4	1
	Œsophagus	534	—	—	—	6	12	23	42	64	71	76	83	62	55	26	14
	Stomach	4,743	—	—	5	53	61	168	257	385	548	673	846	755	624	251	117
	Liver and gall bladder..	2,140	5	1	4	11	18	35	68	131	208	299	391	394	326	175	74
	Total	7,499	6	2	10	72	93	232	377	590	834	1,054	1,334	1,222	1,011	456	206
45	Mesentery and peritoneum	208	1	2	5	7	7	6	21	25	33	29	31	25	9	4	3
	Intestines	4,009	1	—	4	44	45	114	199	278	412	510	683	685	577	331	126
	Rectum and anus ..	1,808	—	—	5	29	29	65	102	157	192	270	277	293	249	108	32
	Total	6,025	2	2	14	80	81	185	322	460	637	809	991	1,003	835	443	161
46	Ovary and Fallopian tube	1,093	1	3	20	37	53	107	154	156	151	152	105	89	47	13	5
	Uterus	4,428	3	2	9	120	220	398	519	652	649	620	492	367	239	106	32
	Vagina and vulva ..	351	3	—	—	6	10	14	13	34	36	48	56	58	43	17	13
	Total	5,872	7	5	29	163	283	519	686	842	836	820	653	514	329	136	50
47	Breast	5,678	—	—	3	100	168	385	608	771	750	773	657	553	462	271	177
48	Skin	475	—	1	2	10	12	12	18	20	36	35	60	74	68	81	46
49	Larynx	201	—	—	—	6	10	8	26	41	32	29	18	20	6	2	3
	Lung and pleura ..	290	1	—	3	6	10	22	20	38	49	51	39	27	17	4	3
	Pancreas	617	1	—	1	6	6	21	27	56	76	117	104	90	73	33	6
	Kidneys and suprarenal glands	250	21	13	6	7	5	9	14	23	33	35	32	22	19	8	3
	Bladder	353	—	1	—	5	4	5	25	20	38	36	81	57	48	21	12
	Brain and meninges ..	72	1	3	6	8	7	7	10	8	6	8	5	1	2	—	—
	Bones (jaw excepted) ..	312	1	16	27	10	17	16	27	33	33	36	30	31	22	9	4
	Other specified organs..	568	9	7	13	29	23	26	33	67	75	86	81	51	44	16	8
	Abdominal cavity, organ unspecified	175	3	2	2	6	2	5	13	10	12	26	25	29	24	13	3
	Other and undefined ..	213	1	1	6	6	12	10	22	29	15	25	21	26	18	13	8
	Total	3,051	38	43	64	89	96	129	217	325	369	449	436	354	273	119	50

each sex the stomach rate has increased since 1911–20 considerably faster than that for total cancer.

Liver.—The mortality ascribed to this site is falling very rapidly at present, the rate for males in 1927 being only 64 per cent. of that in 1911–20, and the rate for females 53 per cent. As this change may be presumed to be due to improvement in certification, substituting the primary site of growth for a mere record of secondary deposits in the liver, some portion of the increases recorded for the primary sites concerned must be due to this transfer. Formerly cancer of the liver was returned chiefly in females, as in 1911–20. For the liver and gall-bladder jointly there was excess for females of 27 per cent. in 1901–10, falling to 18 per cent. in 1911–20, and 9 in 1927. Cancer of the gall-bladder has increased rapidly in females since 1911–20, and their rate in 1927 is more than double that for males. This increase may be related to that of (crude) female mortality from gall-stones, from a war-time minimum, possibly associated with food restriction,

Table XLIV.—Cancer Mortality.—Rates per Million Population (Standardized) for the more important Sites for each Sex 1901–10, 1911–20, 1926, and 1927.

	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
	All Sites.		Lip.		Tongue.		Mouth and Tonsil.		Jaw.	
1901–10	784	942	12·8	0·8	43·1	4·4	?	?	22·6	6·9
1911–20	897	959	12·6	0·7	50·8	4·3	23·5	3·0	25·1	7·2
1926	1,011	995	10·6	0·6	43·7	3·7	29·6	4·1	21·0	6·9
1927	1,018	984	11·9	1·0	46·6	4·3	29·5	3·4	21·1	6·0
	Pharynx.		Œsophagus.		Stomach.		Liver.		Gall-bladder.	
1901–10	?	?	51·2	14·6	167·2	133·0	?	?	?	?
1911–20	10·8	3·0	60·6	16·5	186·4	139·0	87·1	98·0	6·0	11·6
1926	13·1	3·1	65·4	17·8	222·2	163·2	61·2	59·8	9·1	17·7
1927	13·2	2·8	60·7	18·0	229·0	157·0	55·8	52·1	8·3	17·6
	Mesentery and Peritoneum.		Intestine.		Rectum.		Ovary and Fallopian Tube.		Uterus.	
1901–10	8·2	15·8	63·5	72·3	79·8	55·9	—	19·2	—	?
1911–20	6·0	12·0	96·8	109·2	93·6	59·3	—	24·3	—	174·4
1926	5·6	9·3	131·5	135·4	107·2	59·7	—	35·7	—	156·4
1927	4·8	7·3	132·0	131·8	105·7	60·3	—	38·9	—	155·1
	Breast.		Rodent Ulcer.		Penis.		Scrotum.		Other Skin.	
1901–10	1·5	158·4	?	?	?	—	?	—	?	?
1911–20	1·6	170·8	6·7	4·3	6·6	—	2·4	—	17·6	10·9
1926	1·7	184·3	7·5	4·8	6·9	—	2·7	—	18·1	9·3
1927	1·6	193·5	6·5	5·2	6·4	—	3·0	—	18·8	10·3
	Larynx.		Lung.		Pancreas.		Kidney and Suprarenals.		Bladder.	
1901–10	?	?	10·2	7·0	14·5	11·8	8·4	7·6	?	?
1911–20	23·9	6·0	12·7	7·0	16·7	13·1	9·1	7·2	28·2	9·7
1926	33·5	7·3	23·3	9·2	26·0	21·2	11·4	8·8	30·0	11·1
1927	31·7	6·9	26·8	9·7	30·3	20·4	12·2	9·6	30·5	11·6
	Prostate.		Testis.		Bones.		Mediastinum.			
1901–10	11·8	—	?	—	?	?	8·1	4·5		
1911–20	26·5	—	4·9	—	15·7	12·0	9·2	4·6		
1926	47·9	—	5·2	—	17·3	13·1	13·3	6·0		
1927	47·8	—	7·1	—	18·1	11·7	12·9	6·0		

of 21 per million in 1918 (as compared with a little over 30 during 1911–14, the only pre-war years for which this cause of death was distinguished) to 41 in 1927 (Table 5).

Intestine.—Increase of this rate is particularly rapid, the 1927 figure being 108 per cent. in excess of that for 1901–10 for males, and 82 per cent. for females. Such rapid increase as this suggests that even a few years ago many of these deaths would have been referred to other causes than cancer. Hitherto the females rate has been the higher for intestinal cancer, but an excess for females of 14 per cent. in 1901–10, and 13 per cent. in 1911–20, has given way to only 3 per cent. in 1926, and a very slight male excess in 1927.

Lung, Prostate, Pancreas.—The still more rapid increases shown for the prostate, and (in males) the lung and pancreas may well be due in some degree to the same cause, though the view taken by pathologists, who have within the past few years noted an increased proportion of lung cancers to autopsies, appears to be that a real increase has occurred in this case, probably due to the inhalation of some form of irritant. Increase also of tumours of the lung not recognized as malignant is noted on page 68, and, like that from lung cancer, applies chiefly to males.

Rectum.—The increase for this relatively accessible site is very much less than for the remainder of the intestine. It has been much greater for males than for females, an excess for males of 43 per cent. in 1901–10 becoming 58 in 1911–20 and 75 in 1927.

Female Genital Organs.—Mortality from cancer of the female breast continues to increase, while that from uterine cancer falls. Although this cannot be separately stated for 1901–10, the combined rate in that decade for cancer of the uterus vagina and vulva was 208·3, in 1911–20 186·2, and in 1927 166·9. It is now considerably exceeded by the rate for breast cancer, though even in 1911–20 this was lower than that for the uterus alone. But the rate for ovarian cancer is increasing rapidly, having now more than doubled since 1901–10. This is the greatest increase shown for females in Table XLIV.

Lip.—This is one of the few sites not associated of late years with increase of mortality, though the rate has risen in 1927. But as this form of cancer specially affects the agricultural population decrease of the numbers so employed would tend to produce this result, and as this site is specially favourable for surgical treatment the proportion of deaths to cases may well be falling.

50. **Tumours not returned as malignant.**—This title at present includes all non-malignant tumours except those of the brain, eye, and female genital organs. It also includes growths of unstated nature, which cannot on the evidence given be classed either as benign or malignant. In order to secure a comprehensive presentation of all deaths attributed to tumours, all of these not returned as due to cancer are assembled in Table XLV, including mortality of this nature affecting the brain, eye, and female genital organs, but it is to be understood that, in accordance with international practice, the latter is excluded from the numbers shown under this head in Tables 4, 17, and 18.

As in other recent years adenoma of the prostate is classed to 135, Diseases of the Prostate, and not to 50, because the deaths so returned seem to be of the nature of prostatic hypertrophy.

The number of deaths so returned has increased so rapidly of late years (from 32 in 1911 to 210 in 1927) as to leave little room for doubt that the change is one in medical nomenclature and not in the incidence of the disease. The age distribution is that of " prostatic hypertrophy " rather than of cancer.

Deaths of males from papilloma of the bladder have also increased rapidly, from 44 in 1911 and 71 in 1912 to 121, the largest number yet recorded, in 1927. During the same period deaths of females attributed to this cause have increased from 19 in 1911 to 42 in 1927.

Amongst other sites distinguished in Table XLV the following are associated with a rapidly increasing number of deaths—thyroid and pituitary glands, lung and mediastinum, and intestine. Deaths ascribed to tumours of the thyroid have increased from 11 (8 benign and 3 unstated) in 1911, to 65, all benign (63 adenoma)

Table XLV.—England and Wales, 1927 : Deaths attributed to Tumours not returned as Malignant.

Part affected.	All Ages.		0–		15–		35–		45–		55–		65–		75–	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Tumours classed with other disease of organ affected.																
84.2. Cerebral tumour	582	576	75	65	110	114	95	90	149	158	106	89	42	55	5	5
Cyst	10	11	—	3	3	3	2	2	2	2	2	1	1	—	—	—
Fibroma	1	3	—	—	—	—	—	2	—	—	1	1	—	—	—	—
Glioma	146	104	21	21	32	21	29	15	36	31	24	12	4	4	—	—
Other benign	5	8	—	2	2	2	1	1	1	2	—	—	1	1	—	—
Nature unstated	420	450	54	39	73	88	63	70	110	123	79	75	36	50	5	5
In 85, Eye	6	4	4	3	—	—	1	—	1	—	—	—	—	1	—	—
Glioma	4	3	4	3	—	—	—	—	—	—	—	—	—	—	—	—
Adenoma	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Nature unstated	2	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—
In 135. Prostate	226	—	—	—	—	—	—	—	5	—	36	—	104	—	81	—
Adenoma	210	—	—	—	—	—	—	—	2	—	34	—	95	—	79	—
Cystadenoma	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Myoma	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Myoadenoma	5	—	—	—	—	—	—	—	—	—	1	—	3	—	1	—
Fibromyoadenoma	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Fibroadenoma	7	—	—	—	—	—	—	—	—	—	1	—	5	—	1	—
Fibroid	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
137. Ovarian tumour	—	274	—	—	—	31	—	26	—	54	—	53	—	61	—	49
Cyst	—	234	—	—	—	30	—	23	—	47	—	46	—	49	—	39
Cystadenoma	—	7	—	—	—	—	—	—	—	2	—	3	—	1	—	1
Fibroid	—	4	—	—	—	—	—	—	—	2	—	1	—	—	—	1
Papilloma	—	3	—	—	—	—	—	—	—	1	—	—	—	2	—	—
Other benign	—	7	—	—	—	1	—	1	—	1	—	2	—	—	—	2
Nature unstated	—	19	—	—	—	—	—	2	—	1	—	1	—	9	—	6
139. Uterine tumour	—	420	—	1	—	28	—	110	—	167	—	42	—	41	—	31
Fibroid, Fibromyoma, Myoma	—	396	—	1	—	25	—	105	—	160	—	36	—	41	—	28
Polypus	—	13	—	—	—	2	—	3	—	5	—	2	—	—	—	1
Other benign	—	5	—	—	—	1	—	2	—	—	—	2	—	—	—	—
Nature unstated	—	6	—	—	—	—	—	—	—	2	—	2	—	—	—	2
In 141.2. Other female genital organs	—	2	—	—	—	—	—	1	—	1	—	—	—	—	—	—
Broad ligament, cyst	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
" " fibroma	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
150. *Tumours not classed with other diseases of organ or part affected.*																
Pituitary gland .. Adenoma	5	1	—	—	1	—	1	1	2	—	1	—	—	—	—	—
Other benign	4	3	1	1	1	1	1	—	—	1	—	—	1	—	—	—
Nature unstated	10	8	2	2	1	4	1	1	1	—	2	1	3	—	—	—
Thyroid .. .. Adenoma	9	54	—	—	4	4	—	8	1	10	2	13	2	12	—	7
Other benign	1	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Spinal cord .. Glioma	5	6	—	—	—	—	2	1	2	3	1	—	—	1	—	1
Other benign	1	2	—	—	—	—	1	1	—	1	—	—	—	—	—	—
Nature unstated	7	5	—	—	—	—	2	—	2	2	2	3	1	—	—	—
Ear .. .. Polypus	1	2	—	—	1	—	—	—	—	—	—	1	—	—	—	1
Nature unstated	1	1	—	—	—	—	—	—	1	—	—	—	—	—	—	1
Nose .. .. Polypus	7	7	—	—	2	1	1	2	2	1	—	2	2	1	—	—
Larynx .. .. Papilloma	3	2	2	2	—	—	1	—	—	—	—	—	—	—	—	—
Other benign	2	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—
Mediastinum .. Non-malignant	—	2	—	—	—	2	—	—	—	—	—	—	—	—	—	—
Nature unstated	56	50	—	—	3	4	6	3	16	12	17	17	11	7	3	7
Lung .. .. Non-malignant	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Nature unstated	45	18	—	—	1	—	3	3	16	3	11	6	12	4	2	2
Parotid .. .. Non-malignant	—	2	—	—	—	1	—	—	—	—	—	1	—	—	—	—
Nature unstated	2	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—
Œsophagus .. Nature unstated	3	4	—	—	—	1	—	1	2	1	—	—	1	1	—	—
Stomach .. .. Non-malignant	4	1	—	—	—	—	—	—	2	1	1	—	1	—	—	—

Table XLV.—England and Wales, 1927 : Deaths attributed to Tumours not returned as Malignant—*continued.*

Part affected.		All Ages.		0–		15–		35–		45–		55–		65–		75–	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
50. *Tumours not classed with other diseases of organ or part affected*—contd.																	
Intestine ..	Adenoma ..	3	—	—	—	—	—	—	—	—	—	2	—	1	—	—	—
	Papilloma ..	4	2	1	—	1	—	—	1	1	—	—	—	1	1	—	—
	Polypus	2	5	1	—	—	—	—	1	—	—	1	1	—	1	—	2
	Other benign ..	—	3	—	—	—	2	—	—	—	—	—	1	—	—	—	—
	Nature unstated	15	27	—	—	—	—	1	1	2	—	2	3	5	9	5	14
Liver	Non-malignant ..	1	3	—	—	—	—	—	1	—	1	1	—	—	1	—	—
	Nature unstated	4	9	—	—	—	—	—	—	—	—	1	3	2	2	1	4
Pancreas ..	Cyst	4	5	—	1	1	—	—	1	—	2	2	1	—	—	1	—
	Other benign ..	1	2	—	—	—	—	—	1	1	—	—	1	—	—	—	—
	Nature unstated	5	1	—	—	—	—	—	—	—	—	2	1	3	—	—	—
Kidney	Non-malignant ..	3	—	—	—	—	—	—	—	1	—	1	—	—	—	1	—
	Nature unstated	10	10	1	—	—	1	—	—	—	—	2	2	2	5	5	2
Bladder	Papilloma ..	121	42	—	—	3	—	6	1	13	2	27	13	41	11	31	15
	Polypus	1	3	—	—	—	—	—	—	—	—	—	—	1	1	—	2
	Other benign ..	1	2	—	—	—	—	—	—	—	—	1	1	—	—	—	1
	Nature unstated	7	2	—	1	—	—	—	—	—	—	3	1	2	—	2	—
Prostate	Non-malignant ..	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
	Nature unstated	6	—	—	—	—	—	—	—	—	—	1	—	2	—	3	—
Breast	Cyst	—	3	—	—	—	—	—	—	—	2	—	—	—	—	—	1
	Other benign ..	—	3	—	—	—	—	—	—	—	1	—	2	—	—	—	—
	Nature unstated	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Spine	Non-malignant ..	3	2	—	—	1	—	—	—	—	1	2	1	—	—	—	—
	Nature unstated	10	4	—	—	—	1	1	—	1	1	3	1	4	1	1	—
Sacrum	Non-malignant ..	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
	Nature unstated	2	1	—	—	—	—	—	—	1	—	—	—	—	1	1	—
Femur	Non-malignant ..	—	3	—	2	—	—	—	—	—	1	—	—	—	—	—	—
	Nature unstated	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Neck	Cyst	2	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—
	Other benign ..	3	4	—	—	—	—	—	1	—	2	2	—	—	—	1	1
	Nature unstated	1	1	—	—	—	—	—	—	—	—	—	—	1	—	—	1
Thorax	Nature unstated	6	1	—	—	—	—	1	—	1	—	1	—	3	—	—	1
Abdomen ..	Non-malignant ..	1	3	—	—	—	—	—	—	—	1	—	—	—	2	1	—
	Nature unstated	12	29	1	—	2	—	—	1	—	5	—	4	6	4	3	15
Other sites ..	Non-malignant ..	24	29	4	2	5	4	4	4	4	6	2	4	3	4	2	5
	Nature unstated	12	24	—	—	1	4	—	—	—	8	4	4	6	4	1	4
Site not stated ..	Non-malignant ..	4	1	1	—	—	—	—	—	—	—	1	1	2	—	—	—
	Nature unstated	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Total (50)		436	397	15	11	29	31	33	35	72	68	99	90	121	74	67	88
Total, all tumours		1250	1673	94	80	139	204	129	262	227	448	241	274	267	232	153	173
,, benign tumours ..		614	1000	36	38	58	100	50	180	73	290	110	149	166	134	121	109
,, nature unstated ..		636	673	58	42	81	104	79	82	154	158	131	125	101	98	32	64

in 1927. This is by far the largest number during the 17 years, 1926, with 44, coming next. The increase, like that from adenoma of the prostate, may be more apparent than real. Deaths from pituitary tumour were first distinguished in 1913, when they numbered 7 (2 benign and 5 of unstated nature). In 1927 they number 31, of which 13 were returned as definitely benign.

Those from tumour of the lung, of benign or unstated nature, but chiefly unstated, have increased from 11–21 during 1912–19 to 64 in 1927, the largest number yet recorded. This extremely rapid increase during the past eight years has coincided with the

rapid increase of cancer of the lung in males during the same period. Like the cancers these tumours of doubtful nature have occurred chiefly in males, and this excess for males has been much greater during the last few years of increased frequency. It seems probable therefore that most of these lung tumours are really malignant, and akin to the cancers of the lung (or bronchus), which have been noted in increasing numbers during the same period. But the proportion of lung cancers which may perhaps be so concealed is not very great, since there were 956 deaths in 1927 from cancer of the lung or pleura (Table XLIII) but only 63 from lung tumour of unstated nature.

There has been rapid increase also of deaths ascribed to tumour of the mediastinum, again almost exclusively of unstated nature, but the increase, which reached its maximum in 1925, extends over a longer period, and the excess mortality of males is less. It may be that some of these growths are of the same nature as those referred to the lung. Their number has grown from 63 in 1913, when they were first distinguished, to 134 in 1925, and 108 in 1927.

Deaths from intestinal tumours not returned as malignant (chiefly of unstated nature) have increased from 30 in 1912 to 68 in 1926 and 61 in 1927. As cancer of the intestine has been noted as increasing rapidly during the same period, it seems likely that a number of the tumours of unstated nature may also be in reality malignant. Their sex distribution (female excess as in Table XLIII) is consistent with this.

Table 5 and its predecessors show that at the present time mortality from ovarian cysts and other non-malignant tumours is somewhat less than a few years ago, and that from non-malignant tumours of the uterus greater. When first distinguished in 1901 the rate for ovarian tumour was 21 per million, since when it has fallen to 13 in 1927, though Table 5 shows little fall during the last eleven years. The rate for uterine tumour, when first distinguished in 1901, was 20, but in 1918 and 1919 this had fallen to 16, since when it has risen again to 21 in 1927.

57. **Diabetes.**—The deaths allocated to this disease numbered 4,950, 2,045 of males and 2,905 of females, corresponding to standardized death-rates of 88 for males and 101 for females. This rate has been in excess for females in each year from 1923 onwards, whereas before that date excess for males was an invariable rule, though its amount had long been decreasing.

The rate for each sex is higher than in 1926, that for males having increased from 86 to 88 per million and that for females from 91 to 101. The rate for males is the highest since 1923 (90) and that for females since 1915 (104).

This increase has occurred entirely at the higher ages, as shown by the following comparison of death-rates at various ages in 1927 with those for 1920–22 (before the introduction of insulin in 1923), and 1924–26, the first three years wholly affected by the new remedy.

Males.

	All ages (Standardized)	0–15	15–25	25–35	35–45	45–55	55–65	65–75	75–
1920–22 ..	94	13	42	59	69	133	308	663	771
1924–26 ..	85	11	26	39	48	97	311	712	939
1927 ..	88	11	31	41	40	84	330	767	1,024

Females.

1920–22 ..	90	16	35	47	62	124	354	657	631
1924–26 ..	91	10	27	33	50	103	394	827	805
1927 ..	101	11	25	32	45	113	464	881	1,091

In early and middle life (up to 55) the rates for both sexes remain well below those experienced before the introduction of insulin, but the three highest age groups in each sex have experienced continuously increasing mortality during the period covered by the table to an extent sufficient to increase the total death-rate despite its reduction at lower ages. The increase has been especially great at ages over 75, at which the mortality of males has increased since 1920–22 by 33, and that of females by 73, per cent. The extent of this increase for old women raises the question whether the deaths now so returned are fully comparable with those of a few years earlier, or, whether some change in certification, either in the direction of increased recognition of diabetes in the aged or of increased comprehensiveness of the sense in which the term is applied, may not be contributing to so rapid and striking a change. In any case it is evident that if it is desired to trace the effect of insulin on mortality it is necessary to deal with the various periods of life separately, as this effect is very obvious for both sexes at ages under 55, whereas for males of all ages jointly this improvement has been almost, and for females more than wiped out by the extraordinary increase of recorded mortality in old age.

58. (*a*) **Pernicious Anæmia.**—The death-rate in 1927 from this disease is of special interest because of the introduction during the year of a specific remedy in the form of liver treatment comparable to that of insulin for diabetes in 1923. Table 5 does not show any great change in the mortality attributed to the disease, but the death-rate for each sex has fallen somewhat for the first time since 1923. From the date of its introduction, however, the new treatment could be expected to save lives in this country only towards the close of the year, and it is therefore of interest to compare the deaths for different portions of the year in Table 18 with those for 1926. This comparison shows that deaths increased somewhat in the first quarter of 1927, decreased in the second and remained practically as in 1926 in the third. The facts for the fourth quarter are not shown in Table 18, but may be approximately obtained by deducting deaths occurring during the first nine months of the year, 2,001 in number, as shown in that table, from the 2,655 deaths registered in 1927 (Table 4). The difference, 654, compares with a similar difference of 748 for 1926, when the

number actually occurring in the fourth quarter was 754. It appears then, that there was a decrease of about 100 deaths in the fourth quarter of the year, after attention had been called to the new treatment. But there was also a decrease of 74 deaths in the second quarter, so it is still too early to form any definite conclusion, though the fact that of the total reduction of 125 deaths in 1927 about four-fifths occurred in the fourth quarter, after attention had been called to the new treatment in the third, seems hopeful for the prospects of the future.

66. Alcoholism.—This heading in the International List of causes of death excludes organic disease attributed to alcoholism, so, in order to obtain as complete information as possible with regard to mortality from overindulgence in alcohol, all the deaths in certification of which any mention of alcohol appears are assembled in Table XLVI. These deaths make up a total of 752, as against 108 classed to heading 66 as directly due to alcohol.

The former number represents a large increase over the 499 deaths so returned in 1926; but the latter compares with 115 in that year, so probably the only inference to be drawn from the increase is that something has occurred to increase the (obviously small) proportion of deaths from disease of alcoholic origin for which this origin is specified. It seems likely that the explanation may be provided by the introduction of the new form of death certificate in the middle of the year (see page 147). This seems to have had the effect of promoting elaboration of certification (even though it lays stress upon the advantages of simplicity), and amongst other results of this increased elaboration this change seems to be included. Later experience may throw more light upon the matter, but meanwhile it may be provisionally ascribed to the cause mentioned.

Comparison of Table XLVI with its counterpart for 1926 shows that the deaths of each sex from alcoholic cirrhosis of the liver have practically doubled in 1927, and that most of the other conditions chiefly associated with alcohol also display large increases, e.g., neuritis (12 deaths in 1926 and 33 in 1927), lobar pneumonia (22 and 35) and diseases of the stomach (12 and 23). But as the proportion of such deaths for which the alcoholic origin of the disease is specified is probably in all cases small the change noted is not of great importance so long as it is not misinterpreted as evidence of increased mortality from alcoholism.

As to this there is no evidence for 1927 of any lessening of the great reduction in mortality ascribed to alcoholism which occurred during the war, and has been maintained since. The number (108) of deaths ascribed directly to alcoholism, which is not obviously liable to influence by the change of certificate, is the smallest from 1911 onwards (except 1918), comparing with 679 in that year, and, if it could be compared with similar records for years before 1911 (which, however, do not exist), would probably prove to be the lowest returned for very many years.

Table XLVI.—England and Wales, 1927 : Deaths from or connected with Alcoholism.

		All Ages.		Under 25.		25–		35–		45–		55–		65–		75–	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
66.	Deaths attributed solely to alcoholism	84	24	—	1	2	—	20	7	31	4	27	6	4	4	—	2
Deaths attributed to other causes in conjunction with alcoholism —																	
11.	Influenza	12	3	—	—	1	—	4	—	3	2	3	—	1	1	—	—
23.	Encephalitis lethargica	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
31.	Tuberculosis of the respiratory system	6	4	—	—	—	—	5	1	—	2	—	1	1	—	—	—
33.	Tuberculous peritonitis	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
37.	Disseminated tuberculosis	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
38.	Syphilis	4	1	—	—	—	—	1	—	1	—	2	1	—	—	—	—
43–49	Cancer	5	2	—	—	—	—	—	—	3	—	—	—	2	2	—	—
52 (2)	Rheumatoid arthritis, osteo arthritis	2	1	—	—	—	—	—	—	—	1	1	—	1	—	—	—
52 (3)	Gout	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
57.	Diabetes	2	1	—	—	1	—	—	—	—	—	—	1	1	—	—	—
58.	Anæmia	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
68.	Drugs and alcoholic poisoning	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
70 (2)	Encephalitis	—	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—
71	Meningitis	2	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—
72.	Tabes dorsalis	3	—	—	—	—	—	—	—	—	—	1	—	2	—	—	—
73.	Spinal paralysis	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
74.	Cerebral hæmorrhage, apoplexy, etc.	9	9	—	—	—	—	—	—	4	3	3	3	2	3	—	—
77.	Korsakoff's syndrome	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
78.	Epilepsy	3	2	—	—	1	—	2	—	—	1	—	—	—	1	—	—
82.(2)	Neuritis	11	22	—	—	—	1	2	3	4	9	3	7	1	2	1	—
83.	Cerebral softening	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
84 (4)	Paralysis agitans	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
90 (1–4)	Valvular disease of heart	8	5	—	—	—	—	—	—	4	1	3	2	1	1	—	1
90. (5)	Fatty heart	11	5	—	—	1	—		—	2	1	3	2	3	2	—	—
90 (6)	Cardiac dilatation	—	2	—	—	—	—	—	—	—	1	—	1	—	—	—	—
90 (7)	Other or unspecified myocardial disease	19	9	—	—	—	—	—	1	4	2	13	3	1	2	1	1
90 (8)	Tachycardia	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
90 (9)	Undefined heart disease	1	1	—	—	—	—	—	—	1	—	—	—	—	—	—	1
91 (*b*)	Arterio-sclerosis	15	5	—	—	—	—	—	—	2	—	4	2	7	1	2	2
91 (*c*)	Other diseases of the arteries	2	2	—	—	—	—	—	—	1	1	1	1	—	—	—	—
92.	Embolism	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
93.	Varicose veins	2	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—
96.	Hyperpiesis	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
99.	Bronchitis	6	5	—	—	1	1	—	1	1	—	2	1	2	—	—	2
100.	Broncho-pneumonia	8	3	—	—	1	1	1	—	1	1	3	1	2	—	—	—
101 (*a*)	Lobar-pneumonia	29	6	—	—	2	—	6	—	15	2	6	2	—	2	—	—
102.	Pleurisy	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—
	Other diseases of the respiratory system	1	1	—	—	—	—	—	1	—	—	—	—	1	—	—	—
111.	Ulcer of the stomach and duodenum	9	—	—	—	—	—	1	—	5	—	3	—	—	—	—	—
112 (1)	Inflammation of the stomach	10	2	—	—	—	1	4	1	2	—	3	—	1	—	—	—
112 (2)	Other diseases of the stomach	2	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—
113–114	Diarrhœa and enteritis	3	4	—	—	—	—	—	—	3	1	—	1	—	2	—	—
117.	Appendicitis	1	1	—	—	—	—	—	1	—	—	1	—	—	—	—	—
118 (*a*)	Hernia	1	1	—	—	—	—	—	—	—	—	—	—	1	1	—	—
(*b*)	Intestinal obstruction	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
119.	Prolapse of rectum	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
122 (*a*)	Cirrhosis of the liver	162	101	—	1	2	—	13	10	49	25	59	41	33	17	6	7
128–129	Nephritis	14	9	—	—	—	—	2	1	4	4	3	3	5	1	—	—
133 (2)	Ulceration of bladder	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
139.	Uterine fibroid	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
153 (1)	Cellulitis	2	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—
165–174	Suicide	5	1	—	—	2	—	—	—	—	—	3	1	—	—	—	—
182.	Accidental drowning	2	1	—	1	1	—	—	—	—	—	1	—	—	—	—	—
185.	Injury by fall	12	6	—	—	—	—	2	2	6	1	2	1	2	1	—	1
188.	Injury by crushing (vehicles, railway, etc.)	2	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—
	Other violence	16	6	—	—	—	—	3	2	8	3	2	1	3	—	—	—
	Total	499	253	1	3	18	4	72	32	158	68	158	85	82	44	10	17

74. **Cerebral Hæmorrhage, Apoplexy, etc.**—The number of deaths assigned to this cause, 11,018 of males and 14,220 of females, is amongst the smallest of recent years for each sex (Table 4), and for each sex the crude death-rate is the lowest in Table 5. But if these deaths are compared with those from 91 *b* (1), 'arterio-sclerosis with record of cerebral vascular lesion,' it is seen that the reduction has resulted from transfer of deaths from 74 to 91 *b* (1). The crude rate from the two jointly, instead of falling in 1927, has increased from 845 to 867 per million, in accordance with the tendency, discussed in last year's Review, for this rate to increase as a consequence of the increasing age of the population, and without implying any real increase of mortality.

That the transfer has been associated with the introduction of a new form of death certificate is evident from the fact that Table 18 shows it to have been confined to the second half of the year, when the new form was in use. During January—June there were rather more deaths from cause 74 in 1927 than in 1926, but during July—December 19 per cent. fewer, while the numbers from cause 91 *b* (1), slightly increased during the first half of the year, were almost doubled during the second. Evidently for the future it will be necessary to consider causes 74 and 91 *b* (1) jointly, and when this is done the death-rate in 1927 conforms with the experience of other recent years.

The rapid decrease shown in Table 5 for mortality from "apoplexy," which has fallen from 149 per million in 1917 to 47 in 1927, and probably the increase of that assigned to cerebral thrombosis from 58 in 1921 to 79 in 1927, must be attributed to the strong tendency at the present time towards increased precision in form of certification, of which there is ample evidence. And no doubt the same explanation accounts for the fall of mortality from cause 75, 'paralysis of unstated origin,' from 79 in 1917 to 42 in 1927.

76. **General Paralysis of the Insane.**—Although as already seen the death-rate from this cause increased slightly in 1927, Table 5 records a fall from 64 per million in 1917 to 39 in 1927. This fall, which succeeded a long period of steadily maintained rates, has been hailed as a consequence of the introduction of malarial treatment. But as Table 5 shows that it occurred before 1921 (even when allowance is made for reduction of the males rate in 1917 from 121 per million civilians to 108 for all males), and as malarial treatment was first applied in this country in July, 1922, it is evident that this cannot account for the reduction.

83. **Cerebral Softening.**—Reduction of the mortality assigned to this cause from 38 per million in 1917 to 12 in 1927 is presumably due to the same cause as the similar reduction for "apoplexy." Inquiry has shown that this term has been used in two senses—being applied chiefly to the remoter local effects of vascular

lesions, but also not uncommonly to mental deterioration in old people ; and such ambiguous terms are at present rapidly passing out of use in death certification.

84 (4). **Paralysis Agitans.**—This form of mortality, first distinguished in 1921, has since increased almost without interruption from 17 per million in that year to 28 in 1927, when the rate for each sex was the highest yet recorded. The proportion of deaths at ages over 65 was 74 per cent. for males and 77 for females.

87–90. **Heart Disease.**—The number of deaths allocated to this cause, 72,109, 33,365 of males and 38,744 of females, was as usual larger than for any other item in the list of causes.

For each sex these numbers were considerably the highest allocated to this cause since the commencement of comparable records in 1901, and the crude death-rate per million (1,774 for males and 1,891 for females) was also the highest recorded for each sex during the present century. But Table XLVII shows that these rates are reduced on standardization to 1,412 for males and 1,304 for females, and that, though both these rates represent a considerable increase on 1926, they are slightly lower than those for the decennium 1901–10, though this is true for females only when allowance is made for the rather more comprehensive sense attaching to the " heart disease " of that period.

Table XLVII.—England and Wales—Mortality from Heart Disease (87–90) at different Periods, distinguishing Sex and Age.

		All Ages.		0–	15–	25–	35–	45–	55–	65–	75–
		Crude	Stand-ardized.								
Males	1901–10	1,410	1,437*	127	261	392	903	2,208	5,778	11,941	17,189
	1911–20	1,442	1,348	110	265	387	751	1,793	4,810	11,570	20,252
	1926	1,606	1,299	79	175	269	535	1,439	4,015	11,809	27,357
	1927	1,774	1,412	70	177	266	608	1,518	4,370	12,759	30,847
Females	1901–10	1,459	1,337*	157	280	411	938	2,093	5,045	10,672	15,372
	1911–20	1,475	1,223	142	290	394	754	1,681	4,051	9,852	18,117
	1926	1,691	1,189	98	215	301	553	1,262	3,432	10,196	25,298
	1927	1,891	1,304	90	224	315	588	1,346	3,649	11,138	29,602

*Allowance for change in classification in 1911 reduces these rates to 1,408 for males and 1,321 for females.

In the Review for 1926 it was pointed out that the considerable increase, now occurring, of crude mortality from heart disease was mainly due to the increasing age of the population, and to some extent to a change in certification consisting in an increased tendency to record myocardial degeneration on the certificates of deaths from causes giving rise to it.

The continued operation of these causes has evidently contributed to the further large increase in 1927, but two other factors have to be noted as affecting this—the influenza epidemic in the first three months of the year, and the introduction of the new form of certificate of cause of death in July. Evidence of

their effects may be found in Table 18. This shows that, of the total increase in deaths over 1926, 64 per cent. occurred in the first quarter, 5 in the second, and 17 and 14 in the third and fourth. The concentration on the first quarter synchronized with, and was presumably caused by, the outbreak of influenza, as prevalence of this disease has often been noted on other occasions to be accompanied by increase of mortality attributed to heart disease. Moreover, this first quarter increase was mainly of deaths from myocardial degeneration (90 (7)), the form of heart disease of which record was shown in last year's Review to be increasing with such special rapidity of late years owing to increasing elaboration of certification. Probably, therefore, more than half the year's increase may be attributed to influenza.

Evidence of the effect of the new form of certificate is not so clear, but it may be significant that an increase of 3 per cent. in the second quarter was succeeded by 10 and 6 per cent. increases in the third and fourth.

Three forms of heart disease have shared the whole of the increase of deaths in 1927, the changes in the case of other types neutralizing each other. These three forms, with their respective shares of the total increase, are myocardial degeneration (90 (7)) 61 per cent. valvular disease 27, and angina pectoris 12 per cent.

The reason why deaths from the latter condition suddenly increased in 1927 (from 1,880 in 1926 to 2,802) is known. Formerly deaths from sclerosis or thrombosis of the coronary arteries were classified with those from similar disease of other arteries, but in 1927 it had become apparent that many deaths of the nature of angina pectoris were being assigned to arterial disease, which was increasingly stated in such cases, and a change of rule was made transferring all such deaths to angina pectoris.

The increase from myocardial disease continues a movement towards increased specification of this condition on the death certificates of old people, the recent rapid progress of which was traced in the Review for 1926. The number of these deaths is now almost three times as great as in 1921, when they were first distinguished, the greatest increase having occurred in old age (75–) where they now form more than half the total deaths from heart disease. Their increase in 1927 was probably due in large part to influenza, since over 60 per cent. of it took place in the first quarter of the year.

The cause of the increase of mortality from valvular disease is not apparent. Though the deaths occurred chiefly in the winter this is what normally happens, and so cannot be taken to point to an association with influenza. Nor was there any sudden increase in the second half of the year, pointing to an influence of the new form of certificate.

Table XLVII shows how largely increase of heart disease mortality in 1927 is confined, as in other recent years, to old age, where it represents chiefly increased specification of myocardial

degeneration, a little over two-thirds of the increase at 75– in 1927 being so accounted for. At all ages under 65 the rates for each sex in 1927 are less than those in 1911–20.

97–107. **Diseases of the Respiratory System.**—The total number of deaths allocated to these diseases as a whole was 75,941, yielding a crude death-rate of 1,933 per million. The deaths exceeded those of 1926 by 8,112, and the death-rate by 197 per million. But the deaths and death-rates for each sex in 1926 were the lowest for any of the eleven years covered by Table 5, and of these years all but two, 1923 and 1926, recorded rates for each sex higher than those of 1927.

The increase which has occurred is thus not a matter of any moment, as it only arises by contrast with a year of exceptionally low mortality. Moreover, such as it is, Table 18 shows it to have been due entirely to the influenza epidemic in the beginning of the year, but for which mortality might well have been still lower than in 1926. For the excess of deaths over 1926 was 8,112 (Table 4), and in February alone, the month chiefly affected by influenza, there was an excess over February, 1926, of 8,375 deaths, with considerable excesses also in January and March, the months of influenza prevalence thus contributing a good deal more than the total excess. Indeed, this would have been considerably greater than it was but for countervailing excess in April, and to some extent in May, 1926, when influenza mortality also was considerably higher than in 1927. These comparisons show to how great an extent fluctuations in the mortality from respiratory disease are dependent upon the epidemic prevalence of influenza.

99. **Bronchitis.**—The 33,021 deaths allocated to this cause correspond to a death-rate of 840 per million persons living—862 for males and 821 for females.

Each of these rates is lower than for any recent year except 1926, and as Table 18 shows that the excess over that year coincided with the influenza epidemic which culminated in February, the deaths in the first quarter having increased by 6,519, as compared with 2,834 for the whole year, it may safely be inferred that the excess over 1926 has been due to influenza.

Table XLVIII.—England and Wales, 1911–27. Deaths from Bronchitis at various Ages per million persons living at each age.

	0–	5–	45–	70 and upwards.
1911–20 ..	2,554	77	1,731	15,239
1921 ..	1,840	52	1,191	12,538
1922 ..	1,957	64	1,434	15,316
1923 ..	1,332	49	1,142	12,204
1924 ..	1,492	54	1,263	14,066
1925 ..	1,415	51	1,135	13,118
1926 ..	1,168	48	970	10,910
1927 ..	1,158	49	1,013	12,328

Table XLVIII shows that the increase over 1926 occurred mainly in old age, the changes recorded for ages under 70 being quite trivial.

100, 101. **Pneumonia.**—The 37,242 deaths from this cause correspond to a rate of 948 per million, comparing with 828, the lowest for many years, in 1926. Here again the increase, which applies in broadly similar degree to the various forms distinguished, may be seen from Table 18 to be attributable to influenza, as an excess of 5,895 deaths for the first three months of the year more than accounts for the total excess of 4,903 for the whole year. Moreover, for each form of pneumonia distinguished, as for bronchitis and for respiratory disease as a whole, the 1927 excess for the first quarter is succeeded by a 1926 excess in April and May, when influenza mortality also was higher in 1926.

111. **Ulcer of the Stomach or Duodenum.**—Rapid increase in the mortality of males from this cause has continued in 1927, when their crude death-rate of 158 per million was 80 per cent. in excess of that for 1921 (88). A small part of this increase is attributable to the increasing age of the population, as standardization reduces the crude rates to an increasing extent as time goes on, the 88 per million in 1921 becoming 76, and the 158 in 1927, 129, but substantially this leaves the record of increase almost unaffected, merely reducing the 80 per cent. increase for the crude rates during 1921–27 to 70.

While this rapid increase of the rates for males has been going on those for females have remained almost unchanged, and instead of the number of their deaths equalling that for males, as in 1911, it is now only about one-third of it.

129. **Chronic Nephritis.**—The crude mortality attributed to this cause in 1927 is seen from Table 5 to be the highest for males since 1918, and for females since 1915. For both sexes the crude rates, 343 per million for males, and 297 for females, are now subject to large reduction on standardization, to counteract the automatic increase arising from increased proportion of old persons, chiefly affected by this risk, in the population; but the standardized rates of 271 for males and 213 for females also represent a considerable increase upon the 250 and 196 of 1926.

It was pointed out in last year's Review that the standardized mortality of males from this cause had risen for many years to a maximum of 392 in 1913 and 1915, and later fallen steadily to 250 in 1926, and that a maximum of 287 for females had been reached in 1914, with subsequent fall to 196 in 1926. The increase in 1927, accordingly, represents for each sex a reversal of a movement of decline which had been very definitely in progress during the twelve preceding years. This increase applies to males of all ages except 15–25 and 35–45, and to females of all ages except 45–55.

So sudden a change at once raises the question whether any contemporary change in the circumstances influencing the number of deaths so returned may be in whole or part responsible. As in other cases this has been examined by comparing deaths by months in 1926 and 1927 in order to find whether the introduction of the new form of death certificate on July 1 contributed to the increase. This appears to have been the case, as an excess of 67 deaths for 1927 over 1926 in the second quarter of the year increased to one of 508 in the third, the number of deaths going up from 853 in June to 955 in July, or from 28·4 to 30·8 daily, though in 1921–25 it fell from 27·6 daily in June to 25·7, the minimum for the year, in July. So sudden an increase occurring at a time of expected decrease suggests that the new form did, in fact, tend, for a time at least, to increase the number of deaths ascribed to this cause. The excess appears to be a good deal less for the fourth quarter of the year, so the change may not be permanent.

There was also an excess, for the first quarter of the year, of 332 deaths in 1927, of which 183 occurred in February, the month of highest influenza mortality. This might suggest, as in other cases, that a number of sufferers from chronic nephritis were killed off by influenza, death being ascribed to the chronic disease ; and the surmise would be supported by the fact that the two last years of high influenza mortality before 1927, 1922 and 1924 (Table 6), were also years of increased (crude) mortality from chronic nephritis for males, and 1922 for females (Table 5). But 1918 and 1919, the years of the great influenza epidemic, were years of falling mortality from chronic nephritis for each sex. This is, however, exceptional. If we select from Table 6, as years of greatest increase in mortality from influenza before 1918, 1891, 1895, 1900, 1907, and 1915, we find that these were all also years of increased (crude) mortality from chronic nephritis. Possibly the attention attracted by influenza in 1918 involved ascription to it of deaths which in milder epidemics might have been ascribed to chronic nephritis. At all events the extent of association noted for earlier years seems to show that influenza may have contributed to the sudden increase of the chronic nephritis death-rate in 1927. (*See* page 79 for the increase of deaths from chronic nephritis associated with parturition in 1927.)

143–150. **The Puerperal State.**—The number of deaths assigned to pregnancy or childbirth was 2,690 (Tables 4, 17 and LI), corresponding to a rate of 4·11 per 1,000 (live) births. Inclusion of the 861 deaths in Table LIII raises the proportion to 5·43 deaths stated to have been caused by, or associated with, pregnancy and childbirth for every 1,000 (live) births.

These 861 deaths classified as associated with, but not due to, the puerperal state (Table LIII) represent a considerable increase upon the 709 so classed in 1926. Influenza must largely account for the increase, as the number of these deaths from this cause

in 1927, 124, was double that in 1926, thus accounting for more than one-third of the 1927 excess, and in view of the tendency of deaths ascribed to many other causes to increase at times of influenza prevalence it is probable that this record understates the real effect of the influenza epidemic. But probably the increase is due also in part to the influence of the new form of certificate towards increased elaboration of certification, to which reference has already been made. It may well be that this has tended towards record of recent childbirth on the certificates of an increased number of deaths from other causes without intended implication that parturition was seriously contributory to death. This may explain the otherwise puzzling increase in deaths from chronic nephritis associated with childbirth from 25–40 in 1921–26 to 62 in 1927.

For comparison of the deaths definitely assigned to pregnancy and childbirth with those so classed for years prior to 1911 deduction is required of 187 deaths from puerperal nephritis and albuminuria (Table LI), which before that date were not distinguished as puerperal. The resultant rate of 3·83 deaths per 1,000 live births is compared in Table XLIX with similar rates for the preceding thirty-five years, before which the comparability of the figures is doubtful.

Table XLIX.—England and Wales. Mortality of Women in or associated with Childbirth per Thousand Children born alive, 1891–1927.

Year.	Classification in use from 1911 onwards.				Classification in use before 1911.				Total Maternal Mortality.
	Puerperal Sepsis.	Other Puerperal causes.	Total Puerperal Mortality.	* Non-puerperal causes.	Puerperal Sepsis.	Other Puerperal causes.	Total Puerperal Mortality.	†Non-puerperal causes.	
1891–95 ..	—	—	—	—	2·60	2·89	5·49	—	—
1896–1900 ..	—	—	—	—	2·12	2·57	4·69	—	—
1901–05 ..	—	—	—	—	1·95	2·32	4·27	1·29	5·56
1906–10 ..	—	—	—	—	1·56	2·18	3·74	1·26	5·00
1911–15 ..	1·42	2·61	4·03	0·99	1·50	2·31	3·81	1·21	5·02
1916–20 ..	1·51	2·61	4·12	1·68	1·59	2·29	3·88	1·92	5·80
1921–25 ..	1·40	2·50	3·90	1·14	1·48	2·21	3·69	1·35	5·04
1911	1·43	2·44	3·87	1·04	1·52	2·15	3·67	1·24	4·91
1912	1·39	2·59	3·98	0·97	1·47	2·31	3·78	1·17	4·95
1913	1·26	2·70	3·96	0·91	1·34	2·37	3·71	1·16	4·87
1914	1·55	2·62	4·17	0·95	1·63	2·32	3·95	1·17	5·12
1915	1·47	2·71	4·18	1·09	1·56	2·38	3·94	1·33	5·27
1916	1·38	2·74	4·12	0·94	1·47	2·40	3·87	1·19	5·06
1917	1·31	2·58	3·89	0·95	1·39	2·27	3·66	1·18	4·84
1918	1·28	2·51	3·79	3·81	1·35	2·20	3·55	4·05	7·60
1919	1·67	2·70	4·37	1·93	1·76	2·36	4·12	2·18	6·30
1920	1·81	2·52	4·33	1·13	1·87	2·25	4·12	1·34	5·46
1921	1·38	2·53	3·91	1·09	1·46	2·25	3·71	1·29	5·00
1922	1·38	2·43	3·81	1·35	1·46	2·12	3·58	1·58	5·16
1923	1·30	2·51	3·81	1·01	1·38	2·22	3·60	1·22	4·82
1924	1·39	2·51	3·90	1·16	1·48	2·22	3·70	1·36	5·06
1925	1·56	2·52	4·08	1·07	1·62	2·24	3·86	1·29	5·15
1926	1·60	2·52	4·12	1·02	1·64	2·23	3·87	1·27	5·14
1927	1·57	2·54	4·11	1·32	1·63	2·20	3·83	1·60	5·43

* 861 deaths in 1927 (Table LIII).

† 861 deaths in Table LIII and 187 from puerperal nephritis and albuminuria.

After falling steadily from 5·49 in 1891–95 to 3·74 in 1906–10 this mortality has remained stationary, apart from minor fluctuations, during the last 17 years, the rates in 1927, both for sepsis and for other causes, being almost the same as in 1906–10.

The distribution throughout the country of the mortality ascribed to childbirth is outlined in Table L.

Table L.—Distribution throughout England and Wales of Mortality of Women in Childbirth, per Thousand Children Born Alive, distinguishing Septic and Other Causes, 1927.

——	North.	Mid-lands.	South.	Wales.	England and Wales.
Sepsis.					
London	—	—	1·31	—	1·31
County Boroughs ..	1·84	1·51	1·69	1·79	1·72
Other Urban Districts..	1·55	1·43	1·44	1·38	1·46
Rural Districts	1·71	1·51	1·55	1·96	1·62
All Areas	1·73	1·48	1·44	1·64	1·57
Other Causes.					
London	—	—	1·60	—	1·60
County Boroughs ..	3·05	1·91	2·66	3·78	2·68
Other Urban Districts..	3·16	2·19	1·88	3·87	2·63
Rural Districts	2·45	2·33	2·60	4·82	2·69
All Areas	3·00	2·13	1·99	4·14	2·54
All Causes.					
London	—	—	2·91	—	2·91
County Boroughs ..	4·89	3·42	4·35	5·58	4·40
Other Urban Districts..	4·71	3·62	3·32	5·24	4·09
Rural Districts	4·16	3·85	4·15	6·77	4·31
All Areas	4·73	3·61	3·43	5·78	4·11

As regards the distinction between town and country, the tendency for mortality from sepsis to increase, and for that from other causes to decrease, with urbanization, which has consistently characterized each of the previous eight years, 1919–26, for which this table has been published, can scarcely be traced in 1927. The most notable feature of Table L is probably the low mortality in London from both septic and other causes, the London rate being the lowest in both sections of the table. This has been the case for non-septic causes during each of the nine years dealt with, but has not occurred previously for sepsis, the London mortality from which has exceeded the average for England and Wales in four of these nine years.

The rule that sepsis mortality increases with urbanization is broken in 1927 by high mortality in the rural districts, the rate for which is for the first time in excess of that for England and Wales, and is the highest recorded since the epidemic of 1920.

As in five of the eight preceding years the all causes rate for Wales in 1927 is the highest in the table for each class of area. During the years 1919–27 this rate for Wales has been uniformly

Table LI.—England and Wales, 1927: Deaths of Women Classed to Pregnancy and Childbearing.

Cause of Death.	All Ages.	Ages.						
		15–	20–	25–	30–	35–	40–	45 and upwards
143. (*a*) Abortion*	82	—	8	21	19	21	9	4
(*b*) Ectopic gestation ..	98	—	10	20	34	22	11	1
(*c*) Other accidents of pregnancy :—								
Accidental hæmorrhage ..	19	—	—	3	5	5	6	—
Ante-partum hæmorrhage	53	—	5	6	10	17	13	2
Chorea	6	1	1	4	—	—	—	—
Uncontrollable vomiting	39	2	6	13	11	6	1	—
Carneous mole	1	—	—	—	—	1	—	—
Hydatid mole	11	—	3	2	2	—	2	2
Molar pregnancy	2	—	—	—	1	—	—	1
Incarcerated gravid uterus	1	—	—	—	—	1	—	—
Hydramnios	6	—	—	2	1	1	1	1
" Pregnancy " unqualified	4	—	—	1	1	1	1	—
144. Puerperal hæmorrhage :—								
Placenta prævia	142	1	9	22	38	48	23	1
Adherent or retained placenta	57	—	9	13	16	16	3	—
Accidental hæmorrhage ..	17	—	1	2	3	8	3	—
Post-partum hæmorrhage	111	1	14	26	26	21	20	3
145. Other accidents or abnormalities of childbirth :—								
Contracted pelvis ..	48	1	2	13	21	8	1	2
Craniotomy	6	—	1	2	1	1	1	—
Cæsarean section (reason unstated)†	2	—	—	—	2	—	—	—
Malpresentation	31	—	2	6	8	6	7	2
Version	1	—	—	—	—	1	—	—
Instrumental delivery ..	13	—	1	5	3	2	2	—
Rupture of uterus ..	31	—	6	5	9	10	1	—
Rupture of cervix uteri ..	1	—	—	—	—	1	—	—
Rupture of bladder ..	3	—	1	1	1	—	—	—
Laceration of perineum ..	3	—	1	—	1	—	1	—
Laceration of cervix ..	1	—	—	—	—	—	1	—
Inversion of uterus ..	13	—	2	3	6	1	—	1
Sub-involution of uterus	1	—	—	—	—	1	—	—
Inertia of uterus	10	—	1	2	2	5	—	—
Rigid cervix of uterus ..	2	—	2	—	—	—	—	—
Prolapsed cord	1	1	—	—	—	—	—	—
Contraction of uterus ..	3	—	—	1	1	1	—	—
Abnormal fœtus	9	—	—	2	2	4	1	—
Adherent or retained placenta (without hæmorrhage)	9	—	1	1	3	4	—	—
Precipitate labour ..	2	—	—	1	1	—	—	—
Difficult and prolonged labour	61	2	8	19	15	11	6	—
Childbirth apart from above complications :—								
With secondary causes as follows :—								
Anæmia	4	—	2	1	—	1	—	—
Dilatation of heart ..	4	—	1	1	1	1	—	—
Broncho-pneumonia ..	1	—	—	—	—	1	—	—

* Besides these 82 deaths from abortion there were 215 others from abortion with sepsis, which, in accordance with the international scheme, are classified to puerperal sepsis.

† In addition Cæsarean section was stated to have been performed in the case of 95 deaths included under other headings in this table—Chorea 1, ante-partum hæmorrhage 3, placenta prævia 5, detached placenta, 1, concealed accidental hæmorrhage 1, contracted pelvis 24, difficult and prolonged labour 27, malpresentation 3, ruptured uterus 3, uterine inertia 2, rigidity of os 1, puerperal albuminuria and convulsions 10, puerperal sepsis 14—and of 31 other deaths included in Table LIII.

Table LI.—England and Wales, 1927 : Deaths of Women Classed to Pregnancy and Childbearing—*continued.*

Cause of Death.	All Ages.	Ages.						
		15–	20–	25–	30–	35–	40–	45 and upwards
145. Other accidents or abnormalities of childbirth—*cont.*								
Childbirth apart from above complications—*cont.*								
With secondary causes as follows—*cont.* :—								
Pneumonia (type not stated)	2	—	—	1	1	—	—	—
Pleurisy	1	—	—	1	—	—	—	—
Hypostatic pneumonia	1	—	—	—	1	—	—	—
Gastric dilatation ..	1	—	—	1	—	—	—	—
Without stated secondary cause	17	1	6	1	4	3	1	
146. Puerperal sepsis :—								
scarlet fever with sepsis ..	2	—	1	1	—	—	—	—
streptococcal infection ..	15	—	2	6	—	6	1	—
pneumococcal infection ..	3	—	—	—	1	1	—	1
staphylococcal infection ..	1	—	1	—	—	—	—	—
bacillus coli infection ..	5	—	2	—	2	—	1	—
bacillus Welchii infection	1	—	—	—	—	1	—	—
gas gangrene	2	—	1	1	—	—	—	—
septic phlegmasia alba dolens, phlebitis, thrombosis	32	—	2	7	7	11	4	1
septic pneumonia ..	8	—	2	—	1	5	—	—
septic endocarditis ..	5	—	—	2	1	1	1	—
septicæmia	537	19	77	150	136	104	47	4
sepsis	96	3	16	26	26	18	4	3
septic intoxication, sapræmia	52	1	5	12	14	13	7	—
pelvic peritonitis	12	—	1	2	2	6	—	1
peritonitis	56	1	14	15	12	8	4	2
salpingitis	14	1	2	4	4	1	2	—
metritis	7	—	—	4	2	1	—	—
endometritis	16	—	5	2	4	5	—	—
parametritis	14	—	2	3	5	4	—	—
perimetritis	1	—	—	1	—	—	—	—
lymphangitis	1	—	1	—	—	—	—	—
erysipelas	4	—	1	1	—	2	—	—
pyæmia	15	—	2	5	—	4	4	—
pelvic cellulitis	23	—	5	10	1	5	2	—
cellulitis	1	—	—	—	1	—	—	—
pelvic abscess	5	—	—	2	2	1	—	—
blood poisoning	3	—	—	—	1	2	—	—
other specified septic conditions	4	—	2	1	1	—	—	—
"puerperal fever" ..	91	5	21	21	21	13	8	2
147. (1) Puerperal phlegmasia alba dolens, not returned as septic	32	—	2	4	11	8	6	1
(2) Puerperal embolism and sudden death	143	2	15	33	44	26	23	—
148. Puerperal albuminuria and convulsions :—								
Puerperal nephritis, albuminuria, &c. ..	187	6	23	48	48	33	26	3
Puerperal convulsions ..	350	16	71	99	72	57	32	3
149. Puerperal insanity	14	—	3	4	3	1	3	—
150. Puerperal diseases of the breast	7	—	1	2	—	1	3	—
Total	2,690	64	383	668	672	568	293	42

in excess of that for England and Wales in proportions varying from 19 to 43 per cent. The Welsh excess in 1927, 41 per cent., is, as always, much greater for non-septic causes than for sepsis, though even for sepsis no exception has yet occurred to the rule of Welsh excess and for the fourth time in the nine years the highest sepsis rate in the table is that of the Welsh rural districts. In the other five years the Welsh county boroughs returned the highest sepsis rate. The Welsh excess from non-septic causes amounts to 63 per cent. in 1927. This is the largest during the nine years, corresponding ratios for the eight preceding years ranging from 31 to 53. For Wales as a whole and for its rural districts this rate is higher in 1927 than in any of the eight previous years.

Table LI gives particulars of deaths ascribed to the puerperal state.

The records of cases of puerperal fever notified are collated, with those of births and of deaths from this cause in Table LII.

The proportion to live births of cases notified has fallen from 38 per 10,000 in 1926, which was higher than in any of the seven preceding years, to 30. This proportion may probably have been affected by the compulsory notification of "puerperal pyrexia," which was in force throughout the year, having commenced on October 1, 1926. It seems likely that in some cases this might lead to failure to notify a second time, as puerperal fever, a case already notified as puerperal pyrexia. But as the rate of 30 in 1927 was never exceeded during 1919–24, when the graver condition alone was notifiable, it seems unlikely that any effect of the change in reducing notifications of puerperal fever can have been of great importance. The records of notifications under both headings will be found in Tables 26–28, but as those for puerperal fever alone are evidently much more comparable with those of previous years under this head than if supplemented by the figures for puerperal pyrexia they will for the present be considered alone.

Except in the rural districts of the North the notifications ratio is lower in 1927 than in 1926 for every section of Table LII, whereas it was higher in 1926 than in 1925 for all sections except the urban districts of the South. But this ratio had been increasing in the two previous years, and the very moderate extent of its reduction under the new conditions of 1927, appears to render it probable that but for the administrative change the increase would have continued.

Table LII.—Puerperal Fever, 1927 : Prevalence and Fatality.

	Cases notified per 10,000 Live Births.					Deaths per 1,000 Cases notified.				
	North.	Midlands.	South.	Wales.	England and Wales.	North.	Midlands.	South.	Wales.	England and Wales.
London	—	—	36	—	36	—	—	362	—	362
County Boroughs ..	43	41	37	37	42	428	368	463	486	414
Other Urban Districts ..	21	23	20	25	22	721	628	716	544	662
Rural Districts	24	24	17	18	22	705	639	907	1,077	746
All Areas	34	29	29	26	30	515	505	500	642	516

Table LIII.—England and Wales, 1927 : Deaths of Women not classed to Pregnancy and Childbearing, but returned as associated therewith.

	Cause of Death.	All Ages.	Ages.						
			15–	20–	25–	30–	35–	40–	45 and upwards.
6	Small-pox	1	—	1	—	—	—	—	—
8	Scarlet fever	4	—	1	1	—	1	1	—
11	Influenza	124	5	17	26	34	28	10	4
23	Encephalitis lethargica ..	4	—	1	1	1	1	—	—
29	Tetanus	1	—	—	—	—	1	—	—
30 (2)	Sprue	1	—	—	—	1	—	—	—
31	Tuberculosis of respiratory system	71	2	13	18	18	11	9	—
32–37	Other forms of tuberculosis	9	1	1	2	2	2	—	1
38	Syphilis	7	—	1	2	1	—	1	2
40 (1)	Gonococcal infection ..	1	—	—	1	—	—	—	—
43–49	Cancer	17	1	1	3	4	6	2	—
51	Rheumatic fever ..	9	—	1	—	4	3	1	—
52 (2)	Rheumatoid arthritis ..	1	—	—	—	—	1	—	—
56	Rickets	1	1	—	—	—	—	—	—
57	Diabetes	4	—	1	2	—	1	—	—
58 (*a*)	Pernicious anæmia ..	18	—	2	4	1	5	6	—
58 (*b*)	Other anæmias	2	—	—	1	1	—	—	—
59	Fröhlichs' syndrome ..	1	—	—	—	1	—	—	—
60 (*a*)	Exophthalmic goitre ..	4	—	—	1	2	—	1	—
69 (1)	Purpura	3	—	—	—	3	—	—	—
69 (3)	Obesity	1	—	—	1	—	—	—	—
71	Meningitis	2	—	—	—	1	1	—	—
74	Cerebral hæmorrhage, apoplexy, &c. ..	4	—	—	—	—	1	3	—
78	Epilepsy	4	—	1	1	1	1	—	—
87	Pericarditis	1	—	—	—	—	—	1	—
88 (1)	Infective endocarditis ..	4	—	2	1	—	1	—	—
88 (2)	Other acute endocarditis	11	1	2	2	3	3	—	—
88 (3)	Acute myocarditis ..	18	1	—	5	4	5	3	—
89	Angina pectoris ..	1	—	—	—	—	1	—	—
90 (2)	Mitral valve disease ..	71	1	10	21	15	18	6	—
90(1.3.4)	Other or unspecified valvular disease ..	47	2	5	8	11	10	10	1
90 (5)	Fatty heart	18	—	1	2	4	6	5	—
90 (6.7)	Other or unspecified myocardial disease ..	19	—	—	4	5	4	6	—
90 (8.9)	Heart disease undefined	23	—	1	3	7	6	5	1
92	Embolism and thrombosis (not cerebral) ..	2	—	—	—	—	2	—	—
93	Diseases of the veins ..	5	—	—	1	1	1	1	1
98 (2)	Laryngitis	1	—	—	1	—	—	—	—
99	Bronchitis	24	—	2	3	6	9	4	—
100	Broncho-pneumonia ..	25	1	—	5	7	5	7	—
101 (*a*)	Lobar pneumonia ..	70	—	9	20	15	19	7	—
101 (*b*)	Pneumonia (type not stated)	30	—	2	7	11	8	1	1
102 (1)	Empyema	2	—	—	1	—	1	—	—
102 (2)	Other pleurisy	2	—	1	—	—	1	—	—
103	Œdema of lungs ..	2	—	—	—	1	—	1	—
105	Asthma	8	—	—	1	1	3	3	—
107 (*a*)	Fibrosis of lungs ..	1	—	—	—	1	—	—	—
108 (1)	Diseases of the teeth and gums	2	—	—	—	—	1	1	—
108 (3)	Abscess of parotid ..	1	—	—	—	—	—	1	—

Table LIII.—England and Wales, 1927 : Deaths of Women not classed to Pregnancy and Childbearing, but returned as associated therewith—*continued.*

Cause of Death.	All Ages.	Ages.						
		15–	20–	25–	30–	35–	40–	45 and upwards.
109 (1) Tonsillitis	2	—	1	—	—	—	1	—
111 (*a*) Ulcer of the stomach ..	5	—	1	—	1	2	1	—
112 (1) Inflammation of stomach	3	—	—	1	1	—	1	—
113–114 Diarrhœa and enteritis	5	—	—	1	4	—	—	—
117 Appendicitis	12	—	4	1	4	2	1	—
118 (*a*) Ventral hernia	1	—	—	—	—	1	—	—
118 (*b*) Intestinal obstruction ..	23	—	1	6	4	9	2	1
119 (1) Intestinal stasis.. ..	1	—	—	—	—	—	1	—
120 Acute yellow atrophy of liver	32	1	5	11	7	7	1	—
123 Biliary calculi	2	—	1	—	—	—	1	—
124 Cholecystitis	1	—	—	—	1	—	—	—
129 Chronic nephritis ..	62	1	4	12	11	17	14	3
131 Pyonephrosis	1	—	—	—	—	—	1	—
132 Stones in the kidney ..	1	—	—	1	—	—	—	—
133 (1) Cystitis	2	—	—	2	—	—	—	—
137 Cysts and other tumours of the ovary not returned as malignant ..	5	—	2	1	—	1	1	—
139 Tumours of the uterus not returned as malignant	10	—	—	—	4	2	3	1
141 (2) Oöphoritis	1	—	—	—	—	—	1	—
153 (1) Cellulitis of arm ..	1	—	—	1	—	—	—	—
159 (2) Congenital malformation of heart	3	—	—	2	1	—	—	—
165–203 Violence	6	—	—	4	—	—	1	1
Total	861	18	95	192	205	208	126	17

As in each of the preceding eight years for which this table has been prepared the urban (in this instance, county borough) excess of notifications in proportion to live births in Table LII was much greater than that of deaths in Table L, with a corresponding excess for the rural districts of deaths in proportion to cases.

Notification has evidently been most complete in the largest towns, and least so in the rural districts, especially of Wales, where, as also in 1920, 1921, and 1924, the number of deaths actually exceeded that of notifications. The proportion of deaths to notifications, which had fallen to a minimum in 1926 for the nine years compared, both for England and Wales and for nearly all the separate sections of Table LII, has risen in 1927 for every population in the table except London, though the increase is probably to be regarded as a natural result of the changed conditions, and so without significance. The

London proportion was the lowest in the table for 1927, as for two of the eight previous years. In five of the remaining six it has been lowest for the county boroughs of the Midlands, so, as milder cases appear to be notified in London and the Midland county boroughs than elsewhere, it may perhaps be inferred that notification is here most complete.

Table LIII shows the causes of deaths stated to have been complicated by the existence of the puerperal state. The increase in the total number of these deaths from 709 in 1926 to 861 is discussed on pages 78 and 79. The cause of death most largely represented in this table is heart disease (213 deaths, 118 of these being from valvular disease). Next to this come pneumonia (125) and influenza (124). Of 62 deaths of females at all ages from acute yellow atrophy of the liver and 47 at ages 15–45 (Table 17), 32 are seen to have been associated with pregnancy or childbirth.

165–174. **Suicide.**—The deaths allocated to this heading number 4,907—3,458 of males and 1,449 of females. These figures include only deaths definitely attributed to suicide. In addition to them, 1,117 others, 830 of males and 287 of females, were returned under "open verdicts," signifying that it could not be determined whether death was due to suicide, homicide, or accident. They include 601 males and 175 females "found drowned." The crude death-rate in 1927, 184 per million for males and 71 for females, is the highest yet recorded for each sex. During 1861–1910 the standardized rates steadily increased for both sexes, for males from 105 in 1861–70 to 157 in 1901–10, and for females from 35 in the former to 47 in the latter period. Then a fall occurred during the war, from a crude rate for males of 157 in 1914 to 97 (the rate based on all deaths registered in this country and total male population, as also on civilian deaths and civilian population) in 1917, and for females from 48 to 38 during the same interval. Since then the rate for each sex has very steadily risen to its present level, having almost doubled for each during the eleven years (Table 5).

This increase has, however, much less significance than it might at first sight appear to possess, being partly due to the reduction of suicides during the war, partly to the larger proportion of the population now living at the ages, 45 and over, at which suicide is commonest, and only in quite minor degree to actual increase in the frequency of suicide as compared with pre-war experience. This may be seen from the following comparison of mortality in 1927 with that in 1901–10 :—

Table LIV.—England and Wales: Mortality from Suicide per Million Population, 1901–10 and 1927.

	Males.		Females.		Persons.	
	1901–10	1927	1901–10	1927	1901–10	1927
All Ages—						
Crude ..	158	184	49	71	102	125
Standardized	157	151	47	57	99	101
0– ..	—	—	—	—	—	—
5– ..	0	—	—	—	0	—
10– ..	4	2	3	1	3	1
15– ..	36	32	34	27	35	30
20– ..	91	98	45	45	67	71
25– ..	152	119	56	62	101	88
35– ..	252	255	80	99	163	171
45– ..	397	361	109	149	248	249
55– ..	523	519	109	163	303	332
65– ..	508	580	88	121	274	328
75– ..	382	404	49	69	185	199

Despite the large increase of the crude death-rate for males since 1901–10 their standardized rate has somewhat decreased, as comparison of the age-rates suggests, those at ages under 65 being on the whole definitely lower in 1927. But for females the standardized rate has increased as well as the crude, and in this sex also the chief increase has occurred in later life.

The standardized rate for females fell during the war to a minimum of 35 in 1917, so their mortality has since increased, apart from the effect of increased age, by 63 per cent. Unfortunately no satisfactory rates for males during the war can be quoted, but the standardized rate for civilian males also reached a minimum, 97, in 1917, the subsequent increase being 56 per cent.

The increase in the mortality of females is confined to ages over 25, and is greatest in later life. At ages under 20, at which, presumably as a result of unfortunate love affairs, the rates for females approach nearest to, and sometimes exceed, those for males, the 1927 rates show an actual decline, followed by large increases at all ages over 35. This suggests perhaps that as women have come to take a greater part in the competitive business of life the anxieties incidental thereto have somewhat decreased their advantage as regards suicide over men of corresponding age.

Certain notable changes have occurred recently in the means of suicide employed, as recorded in Table LV.

Table LV.—Crude Mortality (per Million) from various Means of Suicide, 1911–1927.

	Poisons, Solid and Liquid.	Coal Gas.	Other Means.	Lysol (included in Poisons).	All Suicides.
	Males.				
1911–15	15	5	124	0	144
1916–20	7	6	103	0	116
1921–25	12	20	120	2	152
1926	17	31	118	6	166
1927	21	35	128	9	184
	Females.				
1911–15	11	2	36	0	49
1916–20	6	4	36	0	46
1921–25	10	10	34	3	54
1926	14	17	35	7	66
1927	16	17	38	9	71
	Both Sexes.				
1911–15	13	3	79	0	95
1916–20	6	5	68	0	79
1921–25	11	15	75	2	101
1926	16	24	74	7	114
1927	19	25	81	9	125

The increase in the crude rate since 1911–15 is seen to be confined to poisoning, mainly by coal gas, as the trifling increase from other means would evidently, in the light of Table LIV, disappear on standardization. But mortality from suicide by coal gas has increased by 733 per cent. since 1911–15, 600 per cent. for males and 750 for females. Apart from coal gas the poisons used in suicide are almost entirely solid or liquid (there were only four deaths in 1927 from suicide by means of other gases). The changes recorded for these are less familiar than the coal gas increase, but are not without interest. The war time reduction in suicide was far greater in suicide by solid and liquid poisons than by other means, and the subsequent increase in such suicides has been effected mainly by means of one agent, lysol, to which three-fourths of the total increase is due. There were 261 deaths from suicide by lysol in 1926, and 361 in 1927 (Table 22).

204, 205. **Ill-defined Causes of Death.**—These headings in the International List of Causes of Death, to which 1,085 deaths have been allocated, exclude the ill-defined diseases of infancy and old age, 160 (1) and 164 (2). In the more comprehensive sense resulting from their inclusion, the deaths from ill-defined causes in 1927 numbered 24,787, or 5·11 per cent. of the total, as compared with 6·15 in 1926 and 9·67 in 1911.

Inquiries sent to medical practitioners and coroners requesting further information as to indefinitely certified deaths amounted to 7,389, and to these 6,884 replies were received, with results to classification, some of the most important of which are set out in Table LVI.

Table LVI.—England and Wales, 1927: Replies to Inquiries respecting Indefinitely Certified Causes of Death.

Subject of Inquiry.	Replies received.	Replies amplifying previous information.	Deaths allocated as the result of inquiry to certain headings.
Croup	29	29	Diphtheria 4, Laryngismus stridulus 4, Laryngitis 12.
Membranous laryngitis	6	6	Diphtheria 3.
Pyæmia, septicæmia, etc.	170	134	Diseases of the teeth and gums 7, Tonsillitis 6, Puerperal sepsis 9, Diseases of the skin 18.
Tuberculosis ..	155	153	Tuberculosis of the respiratory system 94, Tuberculosis of the intestines and peritoneum 4, Tuberculosis of the bones 8, Tuberculosis of the lymphatic system 4, Disseminated tuberculosis 26, Other forms of tubercle 11.
Cancer (part or organ not stated) ..	961	869	Part or organ stated in 855 cases.
Cerebral tumour (P.M. cases) ..	139	129	Encephalitis lethargica 2, Syphilis 4, Cancer 44, Glioma 52.
Tumour of other sites	695	522	Syphilis 3, Cancer 387, Aneurysm 7.
Rheumatism ..	412	407	Rheumatic fever 82, Chronic rheumatism 5, Osteo-arthritis 12, Rheumatic heart disease 274.
Encephalitis ..	157	132	Malaria 1, Measles 1, Influenza 6, Polioencephalitis 2, Encephalitis lethargica 58, Tuberculosis of the nervous system 1, Syphilis 2, Cerebral abscess 2, Other forms of encephalitis 33, Meningitis 2.
Basal or basic meningitis	35	33	Meningococcal meningitis 8, Tuberculosis of the nervous system 13, Syphilis 1, Meningitis—other forms 9.
Posterior or post, basal or basic meningitis	70	66	Meningococcal meningitis 41, Tuberculosis of the nervous system 8, Syphilis 1, Meningitis—other forms 7.
Cerebro-spinal meningitis	131	126	Enteric fever 1, Influenza 2, Meningococcal meningitis 99, Tuberculosis of the nervous system 6, Meningitis—other forms 15.
Spinal sclerosis ..	31	30	Syphilis 2, Tabes dorsalis 5, Other diseases of spinal cord 8, Disseminated sclerosis 13.
Cerebral sclerosis ..	32	31	Syphilis 1, Diseases of spinal cord 3, Disseminated sclerosis 16, Arterio-sclerosis 5.
Paraplegia	51	44	Tuberculosis of vertebral column 1, Syphilis 4, Tabes dorsalis 1, Other diseases of the spinal cord 14, Cerebral hæmorrhage, apoplexy 6, Disseminated sclerosis 2, Arterio-sclerosis 4.
General paralysis (outside asylums) ..	41	39	Encephalitis lethargica 1, Tabes dorsalis 1, General paralysis of the insane 28, Paralysis agitans 1.
Paralysis	33	30	Syphilis 2, Diseases of spinal cord 5, Cerebral hæmorrhage, apoplexy 9.

Table LVI.—England and Wales, 1927 : Replies to Inquiries respecting Indefinitely Certified Causes of Death—*continued.*

Subject of Inquiry.	Replies received.	Replies amplifying previous information.	Deaths allocated as the result of inquiry to various important headings.
Arteritis, aortitis and endarteritis..	112	100	Syphilis 57, Aneurysm 1, Arterio-sclerosis 8.
Fibroid phthisis ..	119	111	Tuberculosis of the respiratory system 88, Chronic interstitial pneumonia 13.
Hæmoptysis ..	36	30	Tuberculosis of the respiratory system 19.
Stomatitis	13	13	Syphilis 1, Thrush, aphthous stomatitis 5.
Stricture of œsophagus	45	39	Syphilis 1, Cancer 23.
Hæmatemesis ..	29	21	Cancer 2, Ulcer of the stomach or duodenum 10, Gastritis 2, Acute yellow atrophy of liver 1, Cirrhosis of liver 1.
Pyloric obstruction, stenosis, etc. ..	39	35	Cancer 15, Ulcer of the stomach or duodenum 12.
Jaundice	50	41	Cancer 20, Cirrhosis of liver 2, Biliary calculi 3.
Peritonitis	117	86	Tuberculosis of peritoneum, etc., 3, Syphilis 1, Cancer 6, Ulcer of the stomach or duodenum 9, Appendicitis 21, Intestinal obstruction 3, Diseases of female genital organs 6, Puerperal sepsis 4.
Pemphigus (of infants)	141	129	Syphilis 32, Diseases of the umbilicus 2.
Hydrocephalus ..	69	65	Tuberculosis of the nervous system 7, Congenital hydrocephalus 39.
Violence	482	470	Precise form of suicide 87, Accidental drowning 11, Injury by fall 62, Injury in mines and quarries 46, Injury by machines 8, Injury by crushing 117.
Syncope, heart failure (ages 1–70) ..	91	80	Influenza 4, Cancer 2, Diseases of the heart 39, Arterio-sclerosis 5, Bronchitis 5, Nephritis 3.
Operation	343	327	Cancer 27, Tonsillitis 8, Ulcer of the stomach or duodenum 22, Appendicitis 14, Hernia, intestinal obstruction 30, Biliary calculi 36, Diseases of the prostate 16, Ovarian tumour 5, Uterine tumour 30, Congenital malformations 5, Violence 5.
Other indefinite forms of certificate ..	2,050	1,818	———
Total ..	6,884	6,145	———

The total additions to certain definite headings resulting from these enquiries were as follows :—To influenza 62 ; to encephalitis lethargica 63 ; to meningococcal meningitis 149 ; to tuberculosis of the respiratory system 249 ; to other forms of tuberculosis 142 ; to venereal diseases 177 ; to cancer 578 ; to diseases of the spinal cord 57 ; to general paralysis of the insane 37 ; to disseminated sclerosis 42 ; to arterio-sclerosis 88 ; to ulcer of the stomach or duodenum 81 ; to appendicitis and typhlitis 60 ; to biliary calculi 47 ; to diseases of the prostate 53 ; to puerperal sepsis 54 ; and to congenital malformations 72.

Anæsthetics.—The usual annual statement is continued of deaths during or connected with the administration of an anæsthetic. This is obtained by secondary tabulation of these deaths, since the primary tabulation, represented by Table 17, classifies all such deaths to the disease or injury on account of which the anæsthetic was administered.

Table LVII.—England and Wales, 1927: Deaths under or connected with the Administration of various Anæsthetics.

Anæsthetic.		Age.														
		All Ages.	0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Chloroform	M.	48	4	5	3	4	3	2	1	1	2	–	2	5	11	5
	F.	53	1	3	2	3	2	3	4	12	7	5	3	4	3	1
Chloroform and ether	M.	100	2	12	3	5	4	3	1	4	6	10	6	13	23	8
	F.	69	2	3	4	2	3	8	3	10	7	5	6	6	7	3
Chloroform, ether and ethyl chloride	M.	2	–	–	–	–	–	–	–	–	–	1	–	–	1	–
	F.	4	–	–	2	–	–	–	–	–	–	–	2	–	–	–
Chloroform, ether and stovaine	F.	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–
Ether	M.	101	3	11	16	4	8	3	3	4	2	3	2	2	21	19
	F.	72	1	6	5	4	4	4	4	5	4	7	5	5	14	4
Ether and ethyl chloride	M.	15	1	1	5	1	–	–	–	1	–	–	–	2	2	2
	F.	17	–	6	2	1	–	–	–	1	–	3	–	2	2	–
Ether and stovaine	M.	2	–	–	–	–	–	–	–	–	–	–	–	–	–	2
	F.	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–
A.C.E. mixture	M.	9	–	1	–	–	–	–	–	–	1	–	3	1	3	–
	F.	2	–	–	–	–	–	–	–	–	1	–	–	1	–	–
A.C.E. mixture and ethyl chloride	F.	1	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Ethyl chloride	M.	8	–	2	4	2	–	–	–	–	–	–	–	–	–	–
	F.	6	–	1	1	1	–	2	–	–	–	1	–	–	–	–
Ethyl chloride and chloric ether	M.	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–
Nitrous oxide	M.	13	–	–	2	–	–	1	–	1	1	1	1	1	4	1
	F.	19	–	–	1	–	–	1	2	2	1	1	3	1	5	2
Stovaine	M.	4	–	–	–	–	–	–	–	–	–	–	–	–	1	3
	F.	5	–	–	–	–	–	–	–	–	–	–	–	–	2	3
Novocaine	M.	5	–	–	–	–	–	1	–	–	–	–	–	1	–	3
	F.	3	–	–	–	–	–	–	–	–	–	1	–	–	–	2
Cocaine	M.	2	–	–	–	–	–	–	1	1	–	–	–	–	–	–
Tropococaine	F.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Procaine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Apothesine	M.	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Novothyrol	F.	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–
Morphia and scopolamine	M.	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–
Kind not stated	M.	15	1	–	1	–	–	–	1	1	1	1	–	3	4	2
	F.	13	1	–	–	–	–	1	1	2	2	–	1	–	2	3
Total	M.	328	11	32	34	17	15	10	7	13	13	17	14	28	70	47
	F.	268	5	19	17	11	9	20	14	32	22	25	21	19	35	19

The total number of deaths in Table LVII, 596, exceeds that for 1926 by 40, and is more than double that of any year

prior to 1916 except 1914 (300). During the 17 years for which fully comparable figures can be stated in Table LVIII these deaths first increased slowly from 276 in 1911 to 336 in 1922 (366 in 1920) and then rapidly to 596 in 1927.

For the years before 1911 the record is contained in the tables of accidental deaths, but certain causes—strangulated hernia and cancer—were at this time preferred in tabulation to the anæsthetic used. In 1927 the 596 deaths included 62 associated with cancer, and 51 with hernia. So for comparison with the years prior to 1911 the number of deaths should be reduced to 483. But during 1901–10 the deaths ranged from 133 (1901) to 234 (1910).

Subject to allowance, on the scale indicated by this reduction, for the more comprehensive nature of the figures from 1911 onwards, the records of the present century may be compared as in Table LVIII.

Table LVIII.—England and Wales: Deaths under or associated with Anæsthesia, 1901-27.

Year.	Males.									Females.								
	All ages	0–.	5–.	15–.	25–.	35–.	45–.	55–.	65–.	All ages	0–.	5–.	15–.	25–.	35–.	45–.	55–.	65–
Yearly average:																		
1901–05	*95	14	20	9	13	16	11	7	4	53	6	9	7	11	8	8	3	2
1906–10	*125	26	20	12	16	18	16	9	8	77	7	14	9	18	11	10	4	3
1911–15	167	30	23	14	20	28	24	16	10	116	14	17	15	16	22	18	10	5
1916–20	188	36	25	25	27	22	20	19	13	119	11	16	14	21	22	17	7	9
1921–25	229	40	28	20	18	27	36	37	24	169	20	17	17	30	29	25	17	12
1921 ..	204	30	29	16	16	19	34	30	30	133	16	23	16	24	21	19	11	3
1922 ..	185	29	21	16	9	27	30	35	18	151	16	15	12	29	31	26	12	10
1923 ..	262	45	37	29	17	38	35	34	27	184	22	23	14	23	32	32	23	15
1924 ..	245	51	30	21	25	21	42	39	16	184	26	11	30	29	31	21	18	18
1925 ..	249	43	25	17	23	28	39	45	29	193	22	14	15	43	32	29	23	15
1926 ..	306	57	43	23	29	34	39	43	38	250	32	22	29	35	44	51	23	14
1927 ..	328	43	51	25	20	30	42	70	47	268	24	28	29	46	47	40	35	19

* Excluding deaths from cancer and strangulated hernia—*see* above.

Deaths in later periods compared with those of 1911–15 taken as 100.

Yearly average:																		
1911–15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1916–20	113	120	109	179	135	79	83	119	130	103	79	94	93	131	100	94	70	180
1921–25	137	133	122	143	90	96	150	231	240	146	143	100	113	188	132	139	170	240
1921 ..	122	100	126	114	80	68	142	188	300	115	114	135	107	150	95	106	110	60
1922 ..	111	97	91	114	45	96	125	219	180	130	114	88	80	181	141	144	120	200
1923 ..	157	150	161	207	85	136	146	213	270	159	157	135	93	144	145	178	230	300
1924 ..	147	170	130	150	125	75	175	244	160	159	186	65	200	181	141	117	180	360
1925 ..	149	143	109	121	115	100	163	281	290	166	157	82	100	269	145	161	230	300
1926 ..	183	190	187	164	145	121	163	269	380	216	229	129	193	219	200	283	230	280
1927 ..	196	143	222	179	100	107	175	438	470	231	171	165	193	288	214	222	350	380

The increase since 1911–15 is very general in its application to sex and age, but affects females more than males, and chiefly the aged of both sexes. It is least for males of 25–45, whose deaths till recently tended rather to decrease.

In 1927, as in most other recent years, deaths of females were in excess at each age-group 15–45, and of males at other ages

The anæsthetic agents recorded on death certificates have altered greatly during the present century. The following statement records the proportion, per cent. of all deaths under anæsthetics of stated type, associated with the exclusive administration at different periods of chloroform, ether, chloroform and ether, and alcohol chloroform and ether (A.C.E. mixture) respectively :—

	Chloroform.	*Ether.*	*Chloroform and ether.*	*A.C.E.*	*Other or mixed.*
1901–05	84	7	2	3	4
1906–10	76	9	8	2	5
1911–15	62	14	15	4	5
1916–20	45	19	27	3	6
1921–25	23	28	34	4	11
1927	18	30	30	2	20

So far as these figures can be taken as any indication of the type of anæsthetic chiefly used, as to which their exclusive association with fatalities makes them an unreliable guide, the increase of deaths under anæsthesia has occurred notwithstanding very general substitution of the safer agent ether for the more dangerous chloroform, which was associated with over four-fifths of the deaths at the beginning of the century, but with less than one-fifth in 1927. The increased proportion of fatalities with "other or mixed" anæsthetics is associated with rapidly increasing record of the use of certain agents, especially ethyl chloride, stovaine, and novocaine, which till recently were rarely mentioned on death certificates.

Proportions of deaths, per 10,000 under anæsthetics of stated type, associated with ethyl chloride, alone and in combination, and with nitrous oxide, stovaine, and novocaine as the only anæsthetic used, have been as follows at the periods stated :—

	Ethyl Chloride		*Nitrous*		
	Alone.	*In combination.*	*Oxide.*	*Stovaine.*	*Novocaine.*
1916–20 ..	155	36	146	91	9
1921–25 ..	157	151	308	186	81
1926 ..	134	363	286	172	57
1927 ..	246	704	563	158	141

It need scarcely be pointed out that these proportions must depend upon the extent to which the various agents are used as well as upon the risk attaching to them. But unfortunately the deaths associated with each type of anæsthetic cannot be collated with the number of its administrations. It is not even possible to say whether, or to what extent, the rapid increase in the number of these deaths implies increased mortality under anæsthetics. The number of administrations is known to be increasing very rapidly, but cannot be stated. The deaths tabulated, moreover, can only be those under, not those caused

by, anæsthesia. It is impossible from certification to distinguish between deaths from operation under anæsthesia and deaths due to the anæsthetic itself, and, this being so, it seems possible that the increase of this type of death may be partly dependent upon increase of boldness in operative surgery.

The conditions chiefly calling for anæsthesia in these cases are as follows—the list being arranged in the order of the titles of the International List to which the deaths were assigned :—

32–36	Non-respiratory tuberculosis ..	16	123	Biliary calculi ..	12
43–49	Cancer	62	124 (pt.)	Diseases of gall bladder ..	7
86 (1)	Diseases of the mastoid sinus.	23	134(*a*)	Stricture of the urethra ..	8
97	Diseases of the nasal fossæ and annexa ..	8	135	Diseases of the prostate ..	11
102 (1)	Empyema ..	20	136 (pt.)	Circumcision ..	8
108 (1) (pt.)	Extraction of teeth	15	139 (pt.)	Uterine fibroids	15
109 (1)	Tonsillitis and adenoid vegetations	45	143–149	Childbirth and abortion ..	36
111	Gastric and duodenal ulcer ..	25	155 (1)	Acute infective osteo-myelitis.	6
117	Appendicitis ..	40	159	Congenital malformations ..	13
118(*a*)	Hernia	51	165–203	Violence ..	34
118(*b*)	Intestinal obstruction	24			

Of the 596 deaths in Table LVII, 479 (80 per cent.) were classed to the 21 causes enumerated in this list, the remainder being of very varied causation. The composition of this list changes little from year to year. In 1926, for instance, the 21 conditions selected as chiefly concerned in 1927, accounted for 76 per cent. of the 556 deaths in that year, only two of them, urethral stricture and osteo-myelitis, falling below the standard for inclusion in the list for 1927.

The proportion of these deaths reported from different classes of institutions, etc., in various sections of the country, is stated in the following table, in which, as place of occurrence is evidently of more interest for these deaths than place of residence, they have been tabulated by area of registration, the registration counties of former Annual Reports (before 1911) being grouped into five sections of the country on the lines indicated in the footnote to Table VI.

The features of this table are much as for 1925 and 1926, the only other years for which it has been published. Of the total deaths 72 per cent. occurred in hospitals, 11 in Poor Law Institutions, 7 in nursing homes, 1 in asylums, and only 9 per cent. elsewhere. Deaths of males were in large excess in hospitals and Poor Law Institutions, but of females in private houses (i.e., elsewhere than in institutions), where many of the 36 deaths

noted above as connected with puerperal conditions doubtless occurred. In all parts of the country deaths of males were in excess in hospital practice, and in all except London, deaths of females were more numerous in private houses. In Wales total deaths were equal for the sexes, but in all other parts of the country there was considerable excess for males.

Table LIX.—Deaths under Anæsthetics Registered in 1927. Distribution by Part of Country and Place of Occurrence.

		Hospitals.	Poor Law Institutions.	Mental Hospitals.	Nursing Homes.	Elsewhere.	Total.
North ..	M.	80	11	1	6	5	103
	F.	65	7	—	5	10	87
Midlands	M.	53	14	—	5	9	81
	F.	42	9	—	6	16	73
London ..	M.	61	6	—	5	3	75
	F.	44	9	—	4	2	59
Remainder of South	M.	42	5	1	4	4	56
	F.	23	2	1	5	5	36
Wales ..	M.	12	1	—	—	—	13
	F.	10	—	—	1	2	13
England and Wales	M.	248	37	2	20	21	328
	F.	184	27	1	21	35	268

The increase since 1925 by 35 per cent. in the number of these deaths is distributed by area as follows :—London 7, North 38, South apart from London 39, Midlands 57, and Wales 73 per cent. During the same period deaths in hospitals have increased by 36 per cent., in Poor Law Institutions by 12, and in private houses by 22 per cent., but in nursing homes they have more than doubled, the number increasing from 20 (22 in 1926) to 41.

Status Lymphaticus and Anæsthetics.—In addition to the 153 deaths from status lymphaticus primarily classified to diseases of the thymus in Table 17, there were 40 deaths under anæsthetics in the case of which record was made of the presence of this condition, but which have been referred in tabulation to the condition occasioning the administration of the anæsthetic. Both these numbers are lower than in 1926.

Deaths in Institutions for the Sick or Infirm.—Table LX records the numbers and proportions of deaths of males and females of various ages which occurred during 1927 in institutions of four specified types.

The number of deaths was higher for males in Poor Law Institutions (56 per cent. of the total), and in hospitals (59). It

was higher for females in lunatic asylums (52), and nursing homes (56 per cent). There were more deaths of males than of females in hospitals at every age, and more of females in nursing homes at all ages over 15.

Table LX.—England and Wales: Deaths in Institutions and Elsewhere, 1927.

	All ages	0–	1–	15–	35–	55–	75–
Males—							
Poor Law Institutions	42,533	2,761	2,090	2,582	7,242	18,453	9,405
Lunatic Asylums	4,952	5	98	654	1,551	1,994	650
Hospitals	34,061	3,665	5,610	6,310	9,003	8,382	1,091
Nursing Homes	2,553	367	70	135	474	1,134	373
Elsewhere	162,507	19,508	11,916	10,912	25,058	61,462	33,651
Total Deaths	246,606	26,306	19,784	20,593	43,328	91,425	45,170
Percentage in Institutions	34	26	40	47	42	33	26
Females—							
Poor Law Institutions	34,073	1,965	1,883	2,782	5,333	11,876	10,234
Lunatic Asylums	5,434	—	74	576	1,444	2,176	1,164
Hospitals	23,723	2,388	4,694	5,042	5,946	4,860	793
Nursing Homes	3,210	243	57	212	713	1,263	722
Elsewhere	171,563	14,708	10,866	12,083	22,932	61,480	49,494
Total Deaths	238,003	19,304	17,574	20,695	36,368	81,655	62,407
Percentage in Institutions	28	24	38	42	37	25	21
Both Sexes—							
Poor Law Institutions	76,606	4,726	3,973	5,364	12,575	30,329	19,639
Lunatic Asylums	10,386	5	172	1,230	2,995	4,170	1,814
Hospitals	57,784	6,053	10,304	11,352	14,949	13,242	1,884
Nursing Homes	5,763	610	127	347	1,187	2,397	1,095
Elsewhere	334,070	34,216	22,782	22,995	47,990	122,942	83,145
Total Deaths	484,609	45,610	37,358	41,288	79,696	173,080	107,577
Percentage in Institutions	31	25	39	44	40	29	23
	Proportion in each class of Institution, etc., per 10,000 Deaths at each Age.						
Males—							
Poor Law Institutions	1,725	1,050	1,056	1,254	1,671	2,018	2,082
Lunatic Asylums	201	2	50	318	358	218	144
Hospitals	1,381	1,393	2,836	3,064	2,078	917	242
Nursing Homes	104	140	35	66	109	124	83
Elsewhere	6,589	7,415	6,023	5,298	5,784	6,723	7,449
Total Deaths	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Females—							
Poor Law Institutions	1,432	1,018	1,071	1,344	1,466	1,454	1,640
Lunatic Asylums	228	—	42	278	397	266	187
Hospitals	997	1,237	2,671	2,436	1,635	595	127
Nursing Homes	135	126	32	102	196	155	116
Elsewhere	7,208	7,619	6,184	5,840	6,306	7,530	7,930
Total Deaths	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Both Sexes—							
Poor Law Institutions	1,581	1,036	1,063	1,299	1,578	1,752	1,826
Lunatic Asylums	214	1	46	298	376	241	169
Hospitals	1,192	1,327	2,758	2,749	1,876	765	175
Nursing Homes	119	134	34	84	149	138	102
Elsewhere	6,894	7,502	6,099	5,570	6,021	7,104	7,728
Total Deaths	10,000	10,000	10,000	10,000	10,000	10,000	10,000

The proportion of deaths in Poor Law Institutions to total deaths was higher for females at ages 1–35, and for males at other ages. Under 35 the proportion of deaths occurring in asylums was larger for males and over 35 for females. The hospitals proportion was greater for males at all stages of life, and that in nursing homes for females at all ages over 15. The proportion of all deaths occurring in institutions was higher for males than females at each age, and in each sex it was highest in early adult life, 15–35, and progressively declined towards each extreme of life, being lowest of all in old age.

POPULATION.

The total population of England and Wales as at the 30th June, 1927, has been estimated at 39,290,000 persons, 18,804,000 being males and 20,486,000 females.

The total is in excess of the 1921 census figure by some 1,403 thousand persons, so that the population is assumed to have grown by 3·7 per cent. over the six intervening years, an arithmetical average of ·61 per cent. per annum as compared with ·49 per cent. per annum during the decade 1911–1921. As between the sexes, the figures indicate a higher rate of growth amongst males and the sex inequality, expressed as 1,096 females per 1,000 males in 1921 is thereby assumed to have been reduced to 1,089 females per 1,000 males at the present time.

The method now adopted in arriving at the estimates consists of tracing forward the past census population, making appropriate additions or deductions for births, deaths and migration from such records of these movements as are available. The largest component in the net increase is what is termed the natural increase, viz., the excess of births over deaths registered in the country ; it is in fact in excess of the net increase, the migration element being outward on balance, and may for all practical purposes be accepted as an exact record. But the same cannot be said of the migration element of the movement. Information regarding permanent migrants (*i.e.*, persons changing their permanent residence) between this country and places outside Europe, and also statistics of passenger traffic to and from the United Kingdom are collected by the Board of Trade. The movement of aliens is also dealt with by the Home Office, and from the various War Departments changes in the disposition of non-civilians are available. On the other hand, there is no record of the movement between England and Wales and the other countries of the United Kingdom, and allowance has to be made for this in computing an estimate on the data gathered from the records which are available.

Such error as there may be in the population estimate is practically wholly attributable to migration, and it is one which will tend to grow in degree as the date of the preceding census becomes more remote. It is unlikely to be as much as 1 per cent. of the total population estimate and if the success which attended the estimation of the national populations of the last intercensal period as judged by the 1921 census is repeated, it will be of a considerably lower order.

Age Distribution.—The analysis of the sex population totals into their respective age components which is shown in Table LXI, has been derived from the corresponding 1926 distribution by the survivorship method used in recent years ; this, briefly, consists of (1) obtaining the year's deaths arising from the population at each age in 1926, and treating the survivors as the population at the next higher age in 1927, (2) completing the table by the

addition of the population aged 0–1, represented by the survivors at the middle of 1927 of the births occurring between the middle of 1926 and the middle of 1927, and (3) adjusting the results of these two operations in respect of migrants in accordance with such age statistics as are available in respect of them.

The average ages of the mid-1927 population according to the estimated age distribution are 30·9 and 32·4 for males and females respectively, as compared with averages of 29·9 and 31·2 at the last census, representing increases in the average age of 1·0 and 1·2 during the six years. Between 1911 and 1921 the average ages increased by 1·9 and 2·1 respectively.

Table LXI.—England and Wales.—Estimated Age Distribution of the Population—Mid-1927.

Age-Group.	Persons.	Males.	Females.
All ages	39,290,000	18,804,000	20,486,000
0—	640,271	323,775	316,496
1—	644,544	325,580	318,964
2—	650,544	329,035	321,509
3—	662,336	334,559	327,777
4—	678,571	343,055	335,516
0—	3,276,266	1,656,004	1,620,262
5—	3,364,144	1,701,210	1,662,934
10—	3,360,644	1,685,455	1,675,189
15—	3,575,578	1,793,269	1,782,309
20—	3,461,466	1,714,296	1,747,170
25—	3,109,988	1,448,771	1,661,217
30—	2,897,545	1,306,180	1,591,365
35—	2,739,076	1,250,283	1,488,793
40—	2,638,279	1,212,907	1,425,372
45—	2,533,353	1,182,085	1,351,268
50—	2,297,060	1,096,398	1,200,662
55—	1,925,667	921,189	1,004,478
60—	1,505,255	708,088	797,167
65—	1,104,571	505,770	598,801
70—	763,882	335,364	428,518
75—	445,142	181,330	263,812
80—	210,974	78,340	132,634
85 & upwards	81,110	27,061	54,049

Local Populations.—As for the country as a whole, so for each individual borough, urban district and rural district, the mid-year estimate of population is obtained by ascertaining or estimating the post-censal natural movement and migration and modifying the 1921 figure in respect of such movements. It was pointed out in the 1921 Statistical Review that the populations as enumerated at the census were not always appropriate for use with vital statistics owing to the presence in seaside and holiday resorts of large numbers of temporary visitors; special steps were taken to measure the amount of temporary inflation in each area and to disperse it so as to correspond more nearly to a residence distribution. For a fuller account

of the processes involved, reference may be made to the Statistical Review for 1921, in which will also be found the basic populations of each area on which the succeeding years' estimates have been founded.

In framing a basis for the estimation of the local changes in population two primary conditions have to be satisfied.

(*a*) The net aggregate of the local increases and decreases must correspond to the more reliably calculated change in the total national population.

(*b*) The method must be capable of impartial application to all areas alike.

So far as the natural movement by births and deaths is concerned, details are known precisely in respect of each area, and the use of the local registration returns automatically ensures compliance with both conditions. With regard to the balance of the movement summed up in the term migration, there is, however, a complete absence of direct record. With an exception perhaps in the case of certain aliens, changes of residence are not subject to official notification here, as they are in some foreign countries, and all knowledge of the movement is limited to such inference as can be drawn from other records, like housing, rating returns, registers of electors, etc., in which the effect of migration may be expected to be reflected. Of these the electoral register is the only one regularly available in respect of every urban and rural area of the country and, therefore, satisfying condition (*b*), and the increases or decreases in the numbers of local government electors have been adopted as the criteria in assessing the incidence of local migration.

But it has to be borne in mind that changes in the register are not all attributable to migration; the mere attainment of franchise age by the existing population, so far as this is not counterbalanced by the deaths of persons already on the register, affects the electorate and falls with varying weight in areas of different age constitution. The incidence of this natural growth factor can be and has been estimated approximately by means of the census age classifications of local populations, and some allowance for it has been incorporated in the estimation formula. Again, persons admitted to the franchise are restricted to certain classes above the ages of 21 and 30 in the case of males and females respectively, numbering only about 40 per cent. of the total population, and the assumption has to be made that movements within the franchise qualifications correspond to similar movements in the whole population. Finally, electoral registration can only take place after three* months' residence in an area, and such migration change as is reflected is that of a period at least three months prior to the period to which the records relate. Notwithstanding these defects it is reasonable on the whole to suppose that any marked migration in either direction will sooner or later make its impression on the electoral

* See note on page 139.

record, though on account of the indirectness of the evidence, the factor is not accorded the same weight in the estimation formula as that given to the direct records of births and deaths.

The 1927 mid-year populations actually adopted were obtained by assuming that the net rate of population increase in each area was

$$A + x\,(B - C) - y$$

where A, B and C are local characteristics ascertained from the records of each area: viz. :—

A = rate of natural increase, 1921–1927 (mid-year points).
B = rate of electoral increase, 1921–1927 (Autumn registers).
C = expected rate of normal growth in electorate 1921–1927 (Autumn registers.)

and x and y are constants applicable to all areas alike. Regarding the latter, it may be assumed that, since the coefficient of A in the estimation formula is unity, x should, for the reasons suggested, be lower and therefore fractional in character and that since the disturbance due to the time lag in the electoral record diminishes as the period between census and date of estimate lengthens, it may reasonably be allowed an increasing value as the date of the census recedes. In practice a number of values of x are experimented with and that value adopted which, when inserted in the formula, yields results most in harmony with the movements of past intercensal periods and with current movements of which we have reliable records, e.g. results of local censuses, etc. For 1927 the value adopted for x was the same as that used last year, viz., $\frac{4}{5}$ths. The constant y represents the adjustment required to ensure compliance with condition (*a*) viz., that the local totals must aggregate to the figure representing the national population as a whole.

An exception to the basis thus described was made in the case of the Administrative County of London and its constituent Boroughs, in respect of which population estimates had been made earlier in the year for the purposes of the Equalization of Rates Act, 1894. For the whole County the estimate was not very different from that which would have resulted from the use of the above formula, but, in the distribution of the County population among the Metropolitan Boroughs, use was also made of certain housing returns provided by the Local Authorities under the said Act, and these estimates have been retained unaltered in the present Review.

Non-Civilian Population:—It will be observed in the tables in which the estimated local populations are given (Table 14 and Table E) that the local deaths and death-rates refer to civilians only and in conjunction with these a civilian population should preferably be used instead of a total population containing a number of non-civilians. In the majority of areas, however, the two populations may be regarded as sufficiently identical, and no special measures have been

regarded as necessary in respect of them, but in a few areas in which the non-civilians were proportionally numerous, estimates of civilian populations have been provided in addition to total populations and are shown in footnotes appended to the tables.

Institutions :—The populations of Hospitals, Infirmaries, Asylums, etc., remain credited to the areas of enumeration, notwithstanding that some persons so included may, on a strict residence classification, more properly be assigned elsewhere.

Table LXII.—Estimated Civilian Population by Sex and Age in the middle of the Year 1927.

(Figures given to the nearest hundred.)

		All Ages.	0–	5–	15–	25–	35–	45–	55–	65–	75 and upwards
All areas :—											
England and Wales ..	M	18,641,0	1,656,0	3,386,7	3,419,9	2,708,5	2,439,3	2,273,6	1,629,3	841,1	286,7
	F	20,486,0	1,620,3	3,338,1	3,529,5	3,252,6	2,914,2	2,551,9	1,801,6	1,027,3	450,5
North	M	6,349,9	569,9	1,154,2	1,201,1	950,4	849,7	774,8	526,5	252,8	70,7
	F	6,827,0	560,4	1,143,3	1,210,7	1,105,3	985,2	841,7	569,8	301,3	109,3
Midlands	M	6,007,5	527,7	1,101,1	1,110,7	854,2	775,6	721,5	528,3	284,0	104,5
	F	6,519,8	515,0	1,082,9	1,119,1	1,012,1	913,8	802,4	574,6	340,6	159,3
South	M	4,931,5	432,1	874,4	854,0	700,8	639,3	617,7	467,1	251,5	94,6
	F	5,783,8	421,4	857,9	956,1	921,8	833,3	753,8	553,7	328,6	157,2
Wales	M	1,366,2	126,3	257,0	261,7	207,1	176,8	160,2	107,4	52,8	16,9
	F	1,355,4	123,5	254,0	243,6	213,4	181,9	154,0	103,5	56,8	24,7
London	M	2,098,2	195,5	369,5	376,3	318,7	277,7	260,5	182,8	89,3	27,9
	F	2,442,8	190,7	368,8	435,5	413,4	351,1	305,8	209,8	116,5	51,2
County Boroughs; ..	M	6,225,3	569,5	1,141,6	1,151,3	938,1	844,0	764,4	505,9	241,0	69,5
	F	6,893,8	560,1	1,138,9	1,240,2	1,126,3	995,8	841,9	564,7	304,6	121,3
North	M	3,351,4	306,2	611,1	629,3	509,6	458,2	414,9	268,6	122,1	31,4
	F	3,663,9	301,3	609,8	662,8	603,9	535,1	448,7	295,2	152,7	54,4
Midlands	M	1,963,2	180,8	366,1	365,0	293,6	263,8	236,6	156,8	77,3	23,2
	F	2,174,1	178,1	365,9	398,1	354,3	308,7	259,5	173,6	95,9	40,0
South	M	627,6	56,0	113,0	102,4	88,3	83,9	80,1	59,5	32,1	12,4
	F	773,7	54,9	111,8	124,7	120,7	113,6	102,8	76,2	46,0	23,0
Wales	M	283,0	26,5	51,4	54,6	46,5	38,2	32,8	21,0	9,5	2,5
	F	282,1	25,8	51,4	54,6	47,4	38,4	30,9	19,7	10,0	3,9
Other Urban Districts; ..	M	6,382,2	554,2	1,172,4	1,167,2	927,0	842,9	783,5	555,7	283,8	95,6
	F	7,086,5	542,1	1,155,0	1,221,0	1,119,2	1,015,5	891,9	627,6	357,4	156,8
North	M	2,101,5	183,3	379,6	395,8	315,0	283,0	258,4	176,9	85,8	23,7
	F	2,263,9	180,1	376,6	396,4	365,9	327,9	283,5	193,9	103,0	36,6
Midlands	M	2,393,9	206,3	443,1	440,8	343,7	313,7	291,1	208,4	108,3	38,4
	F	2,661,6	201,3	435,3	464,1	416,3	379,5	332,3	233,2	136,2	63,4
South	M	1,223,4	101,7	220,3	203,5	167,3	159,2	156,2	121,1	67,2	27,0
	F	1,503,3	99,0	214,6	240,2	232,4	219,7	202,6	153,8	94,0	47,0
Wales	M	663,4	62,9	129,4	127,1	101,0	87,0	77,8	49,3	22,5	6,5
	F	657,7	61,7	128,5	120,3	104,6	88,4	73,5	46,7	24,2	9,8
Rural Districts;	M	3,949,4	336,8	703,2	732,7	528,7	476,8	465,7	384,9	227,0	93,7
	F	4,062,9	327,4	675,4	632,8	593,7	551,8	512,3	399,5	248,8	121,2
North	M	897,0	80,4	163,5	176,0	125,7	108,4	101,5	81,0	44,9	15,6
	F	899,2	79,0	156,9	151,5	135,5	122,2	109,5	80,7	45,6	18,3
Midlands	M	1,650,5	140,6	291,9	304,8	216,8	198,1	193,8	163,1	98,4	42,9
	F	1,684,1	135,6	281,7	256,9	241,5	225,6	210,6	167,8	108,5	55,9
South	M	982,2	78,9	171,6	171,9	126,5	118,6	120,8	103,7	62,9	27,3
	F	1,064,0	76,8	162,7	155,7	155,3	148,9	142,6	113,9	72,1	36,0
Wales	M	419,7	36,9	76,2	80,1	59,6	51,6	49,6	37,1	20,8	7,9
	F	415,6	36,0	74,1	68,7	61,4	55,1	49,6	37,1	22,6	11,0

Local Age Distributions, 1927.—Sex and age distributions have been prepared for the large aggregates shown in Table LXII. The populations at ages under five were obtained by the survivorship method (*see* page 97), and for later ages the total populations estimated by the formula given in the preceding section were distributed in accordance with the census age and sex distribution of the unit, the resulting figures being thereafter modified to allow for the change between 1921 and 1927 of the age distribution of the total population of the country.

United Kingdom and Irish Free State.—The populations of each of the countries of the United Kingdom and of the Irish Free State as estimated by their respective Registrars-General, are shown for each year from 1888 in Table A.

MARRIAGES.

The marriages registered in England and Wales during the year 1927 numbered 308,370, corresponding to a rate of 15·7 persons married per 1,000 of the population of all ages and conditions. The number so registered is 28,510, or 10·19 per cent. more than the number registered in 1926, and represents an increase of 1·4 in the proportion married per 1,000 population.

This increase of over 10 per cent. in the number of marriages is a very large variation for a single year, larger, in fact, than any corresponding change shown in Table C of this Review (*i.e.*, since 1888) outside the period of violent fluctuations associated with the war, viz., 1914–1922.

The increase cannot, however, be interpreted as signifying any real change in the frequency of marriage in the population, for it succeeds and practically neutralizes the heavy fall in the marriages reported last year which, it will be remembered, could upon examination be almost directly identified as an immediate result of the coal stoppage and general strike which began in the early part of May, 1926.

For the two years 1926 and 1927 taken together, the total marriages average 294,000 per annum, a figure closely in accord with the position in the immediately preceding period 1923–1925, when the numbers varied within the comparatively narrow limits of 292,000 and 296,000. It seems very probable therefore that the excess of 1927 is largely due to deferment from 1926, and it may perhaps be regarded as a source of satisfaction that, from one point of view, at any rate, the social effect of the severe industrial dislocation appears to have been so short lived and that full recovery has been made during 1927 If, as is suggested, the 1927 marriages include some which in the normal course of events would have been celebrated in 1926, the present year's figures must be regarded as abnormal and a reduction next year will be looked for as a matter of course.

The preference for the third quarter, noticeable in the records since the beginning of the present century, was maintained in 1927, the marriages in this period being about 30 per cent. of the total, while the fourth, formerly the outstanding favourite, now ranks third out of the four. The rate for the first quarter, representing less than 16 per cent. of the year's marriages, retained its customary place in being lower than that of either of the later quarters.

In the following table the marriages both of the current year and of a series of past periods are compared with the marriageable population consisting of bachelors and widowers in the case of men and spinsters and widows in the case of women at all ages

over 15. The peak of the post-war marriage boom represented by the high rates of the year 1920 is seen to have been followed by a sharp decline to a level of rather more than 53 per 1,000 marriageable males and about 41 per 1,000 marriageable females in the years 1923–1925; the successive fall and rise in the two most recent years is the expression in an alternative form of the movement referred to in relation to the general population on a previous page. The apparent difference between the male and female ratios is of course due to the inequality of the numbers of unmarried men and women in the population and since the former have always been in a minority—which has been unduly exaggerated as a result of the war—it is their numbers which primarily determine the marriageability of the population and the male ratios may accordingly be expected to provide the better indexes to the variations which have occurred from time to time in the incidence of marriage.

Table LXIII.—England and Wales. Annual Number of Marriages of Men and Women per 1,000 Marriageable Population of each Sex aged 15 and over, 1871–1927.

NOTE.—The annual numbers of marriages have been taken as the average of the three years about each Census prior to 1921. During the 1921 period the marriage-rates were changing rapidly and it has been deemed preferable to show the rates for this period by individual years.

Year.	Bachelors, Widowers, Spinsters and Widows.	Bachelors and Widowers.	Spinsters and Widows.
1871	57·2	62·3	52·9
1881	51·5	56·0	47·6
1891	49·8	54·6	45·7
1901	48·7	53·5	44·7
1911	46·3	50·8	42·5
1920	61·7	71·5	54·7
1921	52·1	60·4	45·8
1922	48·2	55·8	42·5
1923	46·6	53·9	41·1
1924	46·6	53·6	41·2
1925	46·2	53·3	40·9
1926	43·4	50·0	38·3
1927	47·5	54·8	41·9

Fluctuations of the general Marriage-rate in different Sections of the Country.—In Tables LXIV and LXV comparison is made of the year's marriages and marriage-rates in large geographical sections of the country, and an analysis of recent rates in Registration Counties is shown in Table LXVI.

The determination of marriage-rates for localities is not wholly satisfactory for several reasons. In a large proportion of cases

the district of registration is the district of residence of only one of the parties and in some cases of neither. This difficulty, however, is probably of less moment in comparisons between large sections of the country than between smaller adjacent localities. Again, it has only been possible till now to tabulate marriages by registration areas, while the available estimates of population for years other than census years refer to administrative areas. The populations upon which the rates for such years are based have, therefore, to be derived from the estimated populations of the corresponding aggregates of administrative counties and county boroughs on the assumption of a ratio between the population of the registration and administrative areas. Any error so introduced is, however, probably small and not likely to have any appreciable effect upon the rates quoted.

Table LXIV.—Marriages of each year in Geographical Sections of the Country : 1914–1927.

	North.	Midlands.	South.	Wales.	England and Wales.
1914 ..	100,926	87,695	85,728	20,052	294,401
1915 ..	115,694	109,844	113,868	21,479	360,885
1916 ..	90,287	84,895	87,322	17,342	279,846
1917 ..	83,151	78,761	80,356	16,587	258,855
1918 ..	92,381	87,798	89,928	17,056	287,163
1919 ..	125,863	111,180	107,971	24,397	369,411
1920 ..	136,443	114,942	102,930	25,667	379,982
1921 ..	110,864	97,218	91,831	20,939	320,852
1922 ..	101,335	91,657	86,610	19,922	299,524
1923 ..	99,640	89,483	83,152	20,133	292,408
1924 ..	100,400	92,035	84,252	19,729	296,416
1925 ..	99,301	92,172	84,882	19,334	295,689
1926 ..	89,777	89,146	84,617	16,320	279,860
1927 ..	102,245	97,750	88,867	19,508	308,370

Though the increase may be said to be general throughout the country, it will be observed from the foregoing tables that it is not uniform in the several sectional areas distinguished. It is proportionately greatest in Wales where a rise of 20 per cent. in the number of marriages follows a fall of 15·6 per cent. last year ; in the more populous Northern section the increase is 14 per cent., as compared with a drop of 10 per cent. last year. On the other hand, in the Midlands and the South, which were least affected by the 1925–26 decline, the numbers are up by approximately 10 and 5 per cent. respectively. The changes have not disturbed the order of the sectional frequencies except in the case of females in Wales who once more regain their supremacy over all the other female sections and in so doing restore the contrast with the male sections where the Welsh frequency

is outstandingly the lowest. The range of variation amongst females is, however, very much less than among males in the several sections.

Table LXV.—Marriage-rate per 1,000 Marriageable Population aged 15 and over in Geographical Sections of the Country.

	Rate per 1,000 Marriageable Population aged 15 and over.			Ratio of local rate to England and Wales rate (taken as 1,000.)		
	1921	1926	1927	1921	1926	1927
Males						
England and Wales	60·4	50·0	54·8	1,000	1,000	1,000
North	61·6	47·4	53·5	1,020	948	976
Midlands ..	60·1	51·8	55·6	995	1,036	1,015
South (including London)	62·2	55·1	58·3	1,030	1,102	1,064
Wales	49·5	36·6	44·2	820	732	807
London ..	71·7	62·2	65·8	1,187	1,244	1,201
Females						
England and Wales	45·8	38·3	41·9	1,000	1,000	1,000
North	48·7	37·8	42·6	1,063	986	1,017
Midlands ..	46·1	40·2	43·1	1,007	1,048	1,029
South (including London)	41·8	37·4	39·4	913	974	940
Wales ..	49·5	37·0	44·5	1,081	964	1,062
London ..	46·5	40·7	42·9	1,015	1,061	1,024

From the county analysis in Table LXVI it will be seen that the 1927 marriage-rate was highest in Nottinghamshire, where it exceeded the mean for the country by 17·5 per cent. followed by Leicester and Derby each with a 11·4 per cent. excess, Warwick (10·7 per cent.), Staffs (9·9 per cent.), London (9·3 per cent.), Durham (8·4 per cent.), and Yorks, West Riding (5·9 per cent.). Mining and industrial counties as a rule return rates above the average for the country at large, while rural counties with few exceptions retain their customary place at the other end of the list. The increase, as compared with last year's figures, is greatest in Monmouth where it amounts to nearly 30 per cent., while in Glamorgan, Durham, Denbigh and Nottingham it is in excess by 20 per cent. In six Welsh counties the rate shows a decline.

Marriage-rates by ages which should provide an even more exact statement of the incidence and intensity of marriage are shown in Table LXVII. In connexion with this table, however,

Table LXVI.—Marriage-rate per 1,000 Marriageable Population —All Marriages and Marriages of Minors separately—in Registration Counties, 1921 and 1927.

Area.	All Marriages.				Minors.			
	Persons married per 1,000 marriageable population of the age of 15 and over.		Ratio to England and Wales rate.		Persons married per 1,000 marriageable population 15–21.		Ratio to England and Wales rate.	
	1921	1927	1921	1927	1921	1927	1921	1927
England and Wales ..	**52·1**	**47·5**	**1,000**	**1,000**	**15·6**	**13·7**	**1,000**	**1,000**
North	**54·4**	**47·5**	**1,044**	**1,000**	**17·7**	**14·4**	**1,135**	**1,051**
Cheshire	48·3	43·0	927	905	13·2	11·5	846	839
Lancashire	54·1	46·7	1,038	983	15·0	12·7	962	927
Yorkshire, West Riding	56·3	50·3	1,081	1,059	19·1	15·8	1,224	1,153
,, East Riding	56·1	48·9	1,077	1,029	19·7	15·5	1,263	1,131
,, North Riding	47·3	44·4	908	935	18·5	16·0	1,186	1,168
Durham	60·7	51·5	1,165	1,084	25·1	17·6	1,609	1,285
Northumberland ..	52·7	45·3	1,012	954	19·3	15·9	1,237	1,161
Cumberland	46·9	39·3	900	827	17·3	13·1	1,109	956
Westmorland	43·4	37·1	833	781	10·7	11·7	686	854
Midlands	**52·2**	**48·9**	**1,002**	**1,029**	**14·8**	**13·4**	**949**	**978**
Middlesex	50·2	47·5	964	1,000	11·8	12·0	756	876
Hertfordshire	44·7	42·1	858	886	12·2	10·7	782	781
Buckinghamshire ..	45·2	42·3	868	891	10·5	12·4	673	905
Oxfordshire	44·8	41·4	860	872	10·8	12·8	692	934
Northamptonshire ..	53·7	49·2	1,031	1,036	14·2	11·4	910	832
Huntingdonshire ..	54·9	48·3	1,054	1,017	18·0	13·2	1,154	964
Bedfordshire	50·7	46·8	973	985	14·2	12·6	910	920
Cambridgeshire ..	49·6	46·8	952	985	15·6	16·1	1,000	1,175
Essex	53·5	48·4	1,027	1,019	12·3	11·5	788	839
Suffolk	48·7	44·3	935	933	14·7	11·8	942	861
Norfolk	49·6	45·9	952	966	14·3	14·3	917	1,044
Gloucestershire ..	49·8	44·8	956	943	11·0	9·2	705	672
Herefordshire	42·7	39·0	820	821	8·5	11·6	545	847
Shropshire	45·7	43·4	877	914	10·7	10·7	686	781
Staffordshire	57·0	52·2	1,094	1,099	17·9	13·5	1,147	985
Worcestershire.. ..	49·2	47·4	944	998	13·6	12·4	872	905
Warwickshire	50·7	52·6	973	1,107	14·0	13·7	897	1,000
Leicestershire	58·9	52·9	1,131	1,114	17·5	15·3	1,122	1,117
Rutlandshire	39·4	35·8	756	754	6·2	5·5	397	401
Lincolnshire	54·3	49·6	1,042	1,044	19·4	18·3	1,244	1,336
Nottinghamshire ..	58·0	55·8	1,113	1,175	22·4	19·6	1,436	1,431
Derbyshire	56·9	52·9	1,092	1,114	18·2	16·5	1,167	1,204
South (including London)	**50·0**	**46·7**	**960**	**983**	**13·6**	**13·2**	**872**	**964**
London	56·4	51·9	1,083	1,093	15·5	13·8	994	1,007
Surrey	43·9	41·2	843	867	10·4	11·2	667	818
Kent	45·9	44·9	881	945	13·5	13·4	865	978
Sussex	39·4	38·3	756	806	11·5	13·0	737	949
Hampshire	48·5	45·8	931	964	13·7	14·3	878	1,044
Berkshire	46·1	43·6	885	918	11·8	12·4	756	905
Wiltshire	50·8	41·8	975	880	12·2	10·5	782	766
Dorsetshire	46·0	41·6	883	876	11·8	12·8	756	934
Devonshire	46·7	44·8	896	943	13·1	13·4	840	978
Cornwall	41·5	41·6	797	876	11·9	15·6	763	1,139
Somersetshire	46·0	43·4	883	914	11·0	11·0	705	803
Wales	**49·5**	**44·0**	**950**	**926**	**16·4**	**13·2**	**1,051**	**964**
Monmouthshire ..	53·8	48·8	1,033	1,027	18·5	14·7	1,186	1,073
Glamorganshire ..	56·6	48·9	1,086	1,029	19·8	14·7	1,269	1,073
Carmarthenshire ..	46·5	39·0	893	821	15·8	13·8	1,013	1,007
Pembrokeshire.. ..	43·3	35·7	831	752	12·2	12·7	782	927
Cardiganshire	29·6	28·3	568	596	5·7	6·7	365	489
Brecknockshire ..	46·0	33·4	883	703	11·8	9·3	756	679
Radnorshire	36·0	32·5	691	684	8·7	11·4	558	832
Montgomeryshire ..	38·9	31·2	747	657	8·7	7·5	558	547
Flintshire	40·8	42·1	783	886	8·5	9·7	545	708
Denbighshire	43·1	44·2	827	931	11·2	10·0	718	730
Merionethshire.. ..	34·4	34·6	660	728	6·9	7·9	442	577
Caernarvonshire ..	36·9	35·4	708	745	8·2	8·0	526	584
Anglesey	33·4	29·4	641	619	7·4	8·0	474	584

Table LXVII.—England and Wales. Annual Marriage-rate per 1,000 Bachelors, Widowers, Spinsters, and Widows respectively at each of several Age Periods, 1871–1927.

NOTE.—The annual numbers of marriages have been taken as the average of the three years about each Census prior to 1921. During the 1921 period, the marriage-rates were changing rapidly and it has been deemed preferable to show the rates for this period by individual years.

Year.	Annual marriage-rate per 1,000 in each age group.						Marriage rate per 1,000 population over 15 in each class.	Ratio to corresponding rate for 1921.	Marriage rate which would have resulted had the 1921 age rates been in operation.	Ratio of actual marriage rate (Col. 8) to rate in previous column (10).
	15—	20—	25—	35—	45—	55 and over.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
				BACHELORS.						
1871	6·0	122·4	119·3	43·3	15·3	3·2	61·7	987	62·3	990
1881	4·6	106·8	112·4	40·5	14·3	3·0	55·7	891	62·4	893
1891	3·1	94·7	122·4	43·4	15·2	3·5	54·8	877	63·8	859
1901	2·5	85·9	123·7	44·2	14·6	3·3	54·7	875	66·6	821
1911	2·2	74·8	120·6	44·4	14·9	3·9	52·6	842	69·2	760
1920	4·0	110·2	191·4	73·6	22·9	5·8	73·8	1,181	—	—
1921	3·4	94·4	161·1	61·6	19·7	5·5	62·5	1,000	62·5	1,000
1922	2·9	85·5	156·5	58·7	18·7	5·3	58·1	930	61·7	942
1923	2·6	82·7	155·8	57·1	17·2	4·7	56·3	901	61·1	921
1924	2·5	80·5	160·2	57·1	17·2	4·9	56·0	896	60·7	923
1925	2·4	78·5	163·2	57·6	17·0	5·4	55·7	891	60·6	919
1926	2·6	71·8	158·6	54·5	16·6	4·9	52·6	842	60·4	871
1927	2·8	76·5	180·2	58·1	17·5	6·2	57·8	925	60·5	955
				WIDOWERS.						
1871	11·5	229·0	288·5	181·5	88·3	15·9	65·8	1,475	56·0	1,175
1881	30·6	192·9	246·5	157·8	76·9	16·0	58·2	1,305	56·0	1,039
1891	14·1	153·4	231·7	151·1	74·7	15·5	53·4	1,197	53·7	994
1901	—	132·6	201·7	134·1	65·3	13·5	44·4	996	51·0	871
1911	—	121·6	171·2	117·9	59·4	12·7	36·9	827	47·4	778
1920	—	231·8	314·1	195·4	88·7	17·8	55·0	1,233	—	—
1921	14·3	163·7	229·3	155·2	73·5	15·8	44·6	1,000	44·6	1,000
1922	—	136·0	204·7	140·5	65·7	14·3	39·3	881	43·7	899
1923	27·8	139·5	199·9	135·1	63·3	14·1	37·3	834	42·7	874
1924	—	119·6	195·6	132·3	64·4	14·1	36·6	821	42·1	869
1925	—	125·4	181·8	129·3	63·6	14·8	35·8	803	41·5	863
1926	—	88·5	164·7	121·7	59·5	13·5	32·5	729	40·7	799
1927	—	106·9	169·4	128·7	63·5	14·5	34·2	767	40·3	849
				SPINSTERS.						
1871	26·8	133·7	85·9	30·4	11·9	1·7	63·1	1,164	55·8	1,131
1881	21·5	121·9	80·6	26·3	10·4	1·6	56·9	1,050	55·8	1,020
1891	16·2	112·4	85·7	26·4	10·3	1·7	54·4	1,004	57·1	953
1901	12·9	104·9	88·6	25·3	9·1	1·5	53·0	978	58·6	904
1911	11·2	97·7	91·1	24·4	8·5	1·8	50·6	934	58·0	872
1920	16·0	134·1	117·3	30·3	10·2	2·1	63·1	1,164	—	—
1921	14·8	114·4	100·0	25·6	8·9	2·0	54·2	1,000	54·2	1,000
1922	13·2	108·2	96·6	24·0	8·1	1·8	50·9	939	53·8	946
1923	12·5	108·2	93·6	23·1	7·8	2·0	49·8	919	53·5	931
1924	12·4	109·8	94·9	22·8	8·0	1·8	50·1	924	53·3	940
1925	12·7	110·4	94·1	22·9	7·9	2·1	50·0	923	53·1	942
1926	12·9	104·0	88·7	21·3	7·6	2·0	47·3	873	52·9	894
1927	14·3	114·4	97·3	23·1	8·2	2·4	51·9	958	52·9	981
				WIDOWS.						
1871	55·4	170·5	125·5	55·7	20·8	2·6	21·1	1,172	19·6	1,077
1881	56·6	155·3	114·5	50·2	18·6	2·6	18·2	1,011	18·5	984
1891	49·3	150·4	114·3	50·3	17·8	2·4	16·3	906	16·8	970
1901	54·9	140·7	115·9	48·9	15·6	2·1	14·4	800	15·6	923
1911	30·0	151·2	114·1	48·9	15·6	2·1	12·5	694	13·6	919
1920	62·9	322·6	159·7	59·1	20·7	2·9	24·3	1,350	—	—
1921	36·1	191·4	120·3	50·6	17·6	2·5	18·0	1,000	18·0	1,000
1922	38·8	145·1	98·9	43·3	15·7	2·3	14·5	806	17·0	853
1923	13·0	143·4	86·2	37·7	14·9	2·2	12·5	694	16.3	767
1924	14·3	143·1	79·7	36·9	15·0	2·3	11·9	661	15·9	748
1925	46·2	123·9	69·8	33·6	14·8	2·4	10·9	606	15·5	703
1926	16·4	109·0	62·5	31·0	13·3	2·3	9·8	544	15·1	649
1927	48·4	96·9	62·9	31·6	14·6	2·6	10·1	561	15·0	673

it is necessary to state that the ascertainment of age rates, in years other than those in which the distribution of the population by sex, marital condition and age is definitely known by means of a census enumeration, involves a degree of estimation of population detail in which the margin of error may be not insignificant, owing to the absence of a complete record of the movements between the single, married and widowed sections of the population. Nevertheless, no study of the marriage tendencies in a population can proceed without reference to these factors, and the possibility of the crude rates being made the basis of erroneous inferences justifies the inclusion of the following series of age rates, though those relating to the current inter-censal period must be regarded as provisional approximations to be confirmed or amended in accordance with changes shown by the next census analysis.

It will be observed from the last column of Table LXVII which compares the actual marriages of each year with a standard number, viz., those expected according to the age rates of 1921 and which makes allowance, therefore, for the changing age constitution of the unmarried population, that for each of the four sections distinguished, bachelors, widowers, spinsters and widows, the frequency of marriage has increased during the year, the rise being most marked in the case of bachelors and spinsters. But, as stated before, the high rates of the present year, however expressed, must, for the time being, be regarded primarily as evidence of an immediate reaction from the abnormal depression of last year; the experience of either year alone being exceptional in itself. Taking the average of the two years as a more normal expression of the current position it will be seen that the bachelor and spinster frequencies at 91·3 and 93·8 per cent. of the 1921 standard are negligibly lower than those of the preceding years but that in respect of widowers and widows (82·4 and 66·1 per cent. of the standard) the downward trend, continuous since 1921, is marked by a much more definite decline. On this basis of comparison the marriage frequencies of bachelors, widowers and spinsters are markedly higher than they were for a number of years before the war—particularly as regards bachelors—while the reverse is the case amongst widows whose frequencies are incomparably lower than any hitherto recorded for this class in the table.

In the age analysis shown in the earlier columns of Table LXVII, the only features of note are the increases recorded for both bachelors and spinsters under 20 years of age and the further increase in the already high rates for bachelors between the ages of 25 and 35. The maintenance of the marriage-rate of young spinsters at a point well in excess of the corresponding rates of pre-war years, in spite of their diminished opportunities for marriage, has been a feature of the returns of recent years. With bachelors also, the rate for the age period 25–35, at which practically one half of the marriages of this class take place, is higher

than that of any preceding year shown except the peak year 1920 while at all higher ages it is well in excess of pre-war experience.

The decline in the case of widowers and widows affects all ages at which the data are sufficient to provide reliable comparison. Notwithstanding this the widowers' rates are almost invariably largely in excess of the corresponding bachelors' rates so that it may be said that remarriages in the case of males are relatively more frequent than first marriages. The same has, until recently, been true of females but the maintenance of the rates amongst young spinsters in conjunction with a heavy fall in respect of widows has destroyed the supremacy of the latter at ages below 35 and only at ages above are the widows' rates materially in excess. The age analysis serves to call attention to the misleading nature of the comparison suggested by the aggregate marriages per 1,000 population shown in column 8 of Table LXVII; owing to the concentration of the single population at the younger ages where marriages are numerous, and the widowed population at the later ages where they are few, the aggregate rate for the single of each sex appears to be vastly in excess of that of the widowed, whereas if allowance be made for the difference in their age constitutions, the relative positions are entirely changed and in the case of males is strongly in favour of the widowed.

Table LXVIII.—England and Wales: Proportions of First Marriages and Re-marriages in 1,000 Marriages, 1918–1927.

Year.	Men.		Women.		Bachelors who married.		Widowers who married.	
	Bachelors.	Widowers.	Spinsters.	Widows.	Spinsters.	Widows.	Spinsters.	Widows.
1918 ..	901	99	894	106	837	64	57	42
1919 ..	897	103	875	125	816	81	59	44
1920 ..	907	93	894	106	839	68	55	38
1921 ..	911	89	909	91	855	56	54	35
1922 ..	913	87	920	80	866	47	54	33
1923 ..	915	85	929	71	875	40	54	31
1924 ..	916	84	932	68	880	36	53	31
1925 ..	916	84	937	63	884	32	53	31
1926 ..	917	83	940	60	887	30	53	30
1927 ..	918	82	942	58	890	28	52	30

Tables LXIX and LXX continue the series shown in previous issues of the Review classifying the marriages of the year by age, the former giving the mean ages of the persons married in each of the possible combinations and the latter extending the analysis into a number of age-groups.

Table LXIX.—England and Wales: Mean Ages at Marriage, 1896–1927.

Males.

Year.	All Bridegrooms.	All Bachelor Bridegrooms.	All Widower Bridegrooms.	Bachelors with Spinsters.	Bachelors with Widows.	Widowers with Spinsters.	Widowers with Widows.
1896–1900 ..	28·38	26·63	44·73	26·35	34·12	41·74	49·72
1901–05 ..	28·52	26·90	45·08	26·62	34·09	42·28	49·88
1906–10 ..	28·76	27·19	45·71	26·93	34·70	42·95	50·64
1911–15 ..	29·01	27·49	46·62	27·18	35·73	43·80	51·37
1916–20 ..	29·77	27·92	46·84	27·42	34·78	44·42	50·25
1921–25 ..	29·18	27·47	47·37	27·08	35·73	44·67	51·87
1911 ..	29·03	27·46	46·42	27·19	35·19	43·49	51·46
1912 ..	29·12	27·56	46·77	27·27	35·75	43·96	51·67
1913 ..	29·11	27·56	46·65	27·25	35·68	43·91	51·35
1914 ..	28·94	27·40	46·66	27·05	35·90	43·79	51·39
1915 ..	28·87	27·49	46·61	27·12	36·15	43·86	50·98
1916 ..	29·70	27·93	47·32	27·47	36·20	44·79	51·07
1917 ..	30·04	28·04	47·71	27·52	35·63	45·22	51·23
1918 ..	30·08	28·14	47·74	27·59	35·43	45·38	50·88
1919 ..	29·81	27·99	45·72	27·46	33·36	43·40	48·85
1920 ..	29·20	27·51	45·73	27·04	33·28	43·31	49·24
1921 ..	29·19	27·48	46·60	27·03	34·35	44·06	50·57
1922 ..	29·21	27·54	46·91	27·12	35·24	44·31	51·20
1923 ..	29·15	27·46	47·34	27·09	35·64	44·60	51·98
1924 ..	29·16	27·45	47·72	27·08	36·31	44·95	52·39
1925 ..	29·17	27·42	48·29	27·07	37·13	45·43	53·19
1926 ..	29·14	27·39	48·53	27·04	37·58	45·75	53·47
1927 ..	29·13	27·39	48·77	27·05	38·10	45·80	53·94

Females.

Year.	All Brides.	All Spinster Brides.	All Widow Brides.	Spinsters with Bachelors.	Spinsters with Widowers.	Widows with Bachelors.	Widows with Widowers.
1896–1900 ..	26·21	25·14	40·70	24·62	32·64	35·96	44·99
1901–05 ..	26·36	25·37	40·37	24·88	32·99	35·76	45·09
1906–10 ..	26·59	25·63	41·06	25·14	33·63	36·51	45·82
1911–15 ..	26·77	25·75	41·65	25·27	34·23	37·40	46·57
1916–20 ..	27·14	25·81	38·66	25·24	34·30	34·73	44·74
1921–25 ..	26·69	25·57	40·83	25·00	34·79	36·43	46·48
1911 ..	26·80	25·81	41·74	25·32	34·13	37·01	46·63
1912 ..	26·84	25·85	41·89	25·36	34·25	37·44	46·69
1913 ..	26·80	25·78	41·57	25·29	34·23	37·22	46·59
1914 ..	26·68	25·61	41·64	25·12	34·28	37·53	46·57
1915 ..	26·75	25·71	41·42	25·28	34·28	37·78	46·39
1916 ..	27·17	25·91	40·73	25·36	34·58	36·79	45·85
1917 ..	27·27	25·89	39·66	25·28	34·54	35·40	45·48
1918 ..	27·29	25·92	38·84	25·33	34·59	34·82	44·86
1919 ..	27·16	25·81	36·69	25·24	33·77	33·07	43·36
1920 ..	26·79	25·54	37·36	24·99	34·02	33·56	44·14
1921 ..	26·73	25·52	38·83	24·95	34·40	34·83	45·26
1922 ..	26·71	25·57	39·93	25·02	34·53	35·81	45·87
1923 ..	26·66	25·57	40·94	25·01	34·74	36·35	46·66
1924 ..	26·67	25·59	41·69	25·02	34·95	37·19	46·89
1925 ..	26·66	25·59	42·74	25·00	35·34	37·95	47·70
1926 ..	26·63	25·56	43·11	24·97	35·44	38·42	47·90
1927 ..	26·64	25·58	43·81	25·00	35·62	39·05	48·36

Table LXX.—England and Wales : Marriages of Bachelors, Spinsters, Widowers and Widows at Various Ages per 1,000 Marriages at All Ages, 1886–1927.

Period.	All Ages.	Under 18 Years.	18–	19–	20–	Under 21 Years.	21–	25–	30–	35–	40–	45–	50–	55 and up.	Age not stated.
						Bachelors.									
1886–90..	1,000	0	4	20	47	71	424	309	96	33	13	6	3	2	43
1891–95..	1,000	0	3	17	43	63	415	333	108	37	14	6	3	2	19
1896–1900	1,000	0	3	15	39	57	411	346	110	39	15	6	3	2	11
1901–05..	1,000	0	3	13	35	51	390	360	122	41	16	7	3	2	8
1906–10..	1,000	0	3	11	30	44	370	372	132	46	17	8	3	2	6
1911–15..	1,000	0	3	12	28	43	350	373	139	53	21	9	4	3	5
1916–20..	1,000	1	6	13	27	47	332	354	144	62	30	15	6	4	6
1921–25..	1,000	1	4	13	30	48	355	360	133	53	24	12	5	5	5
1921 ..	1,000	1	4	15	33	53	350	356	136	55	24	12	5	4	5
1922 ..	1,000	1	4	14	30	49	349	361	136	54	24	12	5	5	5
1923 ..	1,000	1	4	13	29	47	358	359	133	53	24	12	5	4	5
1924 ..	1,000	1	4	13	27	45	361	361	132	51	23	11	6	5	5
1925 ..	1,000	0	4	12	28	44	360	367	129	50	23	11	6	5	5
1926 ..	1,000	1	4	13	29	47	357	372	125	49	22	12	6	5	5
1927 ..	1,000	1	4	13	28	46	354	383	122	46	21	11	6	6	5
						Spinsters.									
1886–90..	1,000	9	37	72	97	215	417	219	62	23	10	5	2	1	46
1891–95..	1,000	7	31	66	94	198	425	241	70	25	11	5	2	1	22
1896–1900	1,000	6	27	59	89	181	434	253	74	26	11	5	2	1	13
1901–05..	1,000	5	23	53	82	163	428	272	79	28	12	5	2	1	10
1906–10..	1,000	5	21	48	75	149	420	284	87	30	12	6	2	2	8
1911–15..	1,000	6	23	47	70	146	402	292	94	34	14	7	3	2	6
1916–20..	1,000	6	23	48	72	149	402	275	94	39	17	9	4	3	8
1921–25..	1,000	7	25	51	72	155	411	280	87	32	14	8	4	3	6
1921 ..	1,000	7	27	54	76	164	406	274	86	33	15	8	4	3	7
1922 ..	1,000	7	26	51	73	157	404	282	88	33	15	8	3	3	7
1923 ..	1,000	7	25	49	72	153	412	279	87	33	14	8	4	3	7
1924 ..	1,000	7	25	49	70	151	414	281	87	32	14	8	4	3	6
1925 ..	1,000	8	25	49	70	152	413	281	86	32	14	8	4	4	6
1926 ..	1,000	9	28	50	70	157	410	279	86	32	14	8	4	4	6
1927 ..	1,000	9	27	50	69	155	412	282	84	31	14	8	4	4	6

Period.	All Ages.	Under 21 Years.	21–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70 and up.	Age not stated.
						Widowers.								
1886–90..	1,000	0	13	81	133	151	139	120	94	70	53	27	15	104
1891–95..	1,000	0	12	76	132	153	148	126	106	74	55	29	18	71
1896–1900	1,000	0	10	73	131	158	150	136	109	84	56	30	19	44
1901–05..	1,000	0	10	68	130	155	152	136	116	83	62	32	20	36
1906–10..	1,000	0	8	61	123	153	152	141	119	90	62	37	24	30
1911–15..	1,000	0	7	53	109	151	150	146	125	97	68	41	30	23
1916–20..	1,000	0	7	54	105	138	151	155	130	101	70	39	26	24
1921–25..	1,000	0	8	55	109	137	135	136	126	104	79	51	36	24
1921 ..	1,000	0	8	61	116	142	143	138	120	99	73	46	31	23
1922 ..	1,000	0	8	55	115	142	138	139	121	102	74	48	34	24
1923 ..	1,000	0	8	55	110	140	133	136	124	102	80	51	37	24
1924 ..	1,000	0	7	54	107	129	134	135	132	104	82	52	40	24
1925 ..	1,000	0	8	50	98	128	127	132	133	113	87	58	41	25
1926 ..	1,000	0	6	48	96	123	131	136	131	112	88	59	44	26
1927 ..	1,000	0	6	51	91	121	129	132	135	115	87	63	47	23
						Widows.								
1886–90..	1,000	1	30	119	164	173	145	117	73	46	26	10	3	93
1891–95..	1,000	1	27	115	170	177	157	119	78	47	29	10	4	66
1896–1900	1,000	1	26	113	175	188	157	127	81	50	28	11	3	40
1901–05..	1,000	1	28	122	182	190	158	118	78	47	29	11	4	32
1906–10..	1,000	1	23	106	177	192	160	129	82	52	30	14	6	28
1911–15..	1,000	1	21	98	167	193	171	135	85	51	32	16	11	19
1916–20..	1,000	3	67	189	191	162	126	98	64	41	24	13	6	16
1921–25..	1,000	1	25	134	200	182	138	109	77	52	33	19	11	19
1921 ..	1,000	1	37	179	222	178	122	93	62	42	25	15	8	16
1922 ..	1,000	1	25	148	212	185	135	102	72	49	29	16	8	18
1923 ..	1,000	1	23	125	200	182	140	113	79	53	34	19	12	19
1924 ..	1,000	1	20	104	188	185	150	123	83	56	37	20	14	19
1925 ..	1,000	1	17	89	170	180	152	126	98	65	44	24	13	21
1926 ..	1,000	1	16	84	158	189	153	127	97	66	45	26	17	21
1927 ..	1,000	0	14	75	149	178	159	136	100	72	50	31	17	19

Marriages of Minors.—Of the males married during the year, 12,774, or 4·14 per cent., were under the age of 21, and of the females 45,055, or 14·61 per cent., as compared with 4·33 per cent., and 14·75 per cent. last year respectively. Females, who have always greatly outnumbered the males in this class—in the present year the ratio is about $3\frac{1}{2}$ to 1—naturally show the highest rates and the greatest changes in the rate; they formed 18·8 per 1,000 of the unmarried females aged 15–21 in 1911, were 26·6 in 1920, and are now 21·6, while the corresponding rates for males were 5·5, 8·8 and 6·0 per 1,000 respectively; both the rapid post-war rise and the subsequent decline in the rate generally follows the experience of adults, but while the adult marriage-rate of the years 1926 and 1927 combined is on the whole slightly lower than it was in 1925, in the case of minors, an increase is recorded for each of the sexes.

Comparative figures are shown in Table LXXII for the period back to 1901, before which the age group 15–21 was not identified in the population returns; an indication of the trend of youthful marriage-rates in earlier periods may be gained from the general age analyses in Table LXX.

Table LXXI.—England and Wales: Minors Married per 1,000 Marriages at all Ages, 1876–1927.

Year.	Husbands.	Wives.	Year.	Husbands.	Wives.
1876–80 ..	77·8	217·0	1915 ..	34·8	129·8
1881–85 ..	73·0	215·0	1916 ..	36·2	129·1
1886–90 ..	63·2	200·2	1917 ..	41·7	134·2
1891–95 ..	56·2	182·6	1918 ..	42·6	129·0
1896–1900 ..	51·2	168·0	1919 ..	43·7	129·4
1901–05 ..	46·3	153·1	1920 ..	46·8	142·9
1906–10 ..	40·3	139·4	1921 ..	48·2	149·2
1911–15 ..	39·2	136·6	1922 ..	44·4	144·4
1916–20 ..	42·6	133·3	1923 ..	42·5	142·9
1921–25 ..	43·3	143·9	1924 ..	40·4	140·3
1912 ..	39·2	135·4	1925 ..	40·6	142·3
1913 ..	42·1	143·8	1926 ..	43·3	147·5
1914 ..	41·6	142·5	1927 ..	41·4	146·1

Table LXXII.—England and Wales: Annual Marriage-rate per 1,000 Unmarried and Widowed Persons in the age group 15–21 at each period 1901 to 1927.

Year.	Males.		Females.	
	Rate.	Ratio to 1921.	Rate.	Ratio to 1921.
1901	6·7	87	21·6	92
1911	5·5	71	18·8	80
1920	8·8	114	26·6	114
1921	7·7	100	23·4	100
1922	6·4	83	20·9	89
1923	5·9	77	20·0	85
1924	5·6	73	19·8	85
1925	5·6	73	20·0	85
1926	5·6	73	19·7	84
1927	6·0	78	21·6	92

The proportions of males and females marrying under age are summarised for regions and counties in the subjoined Tables LXVI and LXXIII. Much of the variation there shown is but a reflex of the incidence of the general marriage-rate (Tables LXV and LXVI) and regard must necessarily be had to the latter in considering how far the former provides evidence of local custom regarding early marriage. For example the highest male rate for 1927 shown in Table LXXIII is that of 6·8 per 1,000 in London which is over 13 per cent. above the average for the country at large; reference to Table LXV, however, shows that the corresponding rate for all ages in this area was more than 20 per cent. in excess, so that under-age marriages, though apparently more numerous than elsewhere, may from this point of view be regarded as subnormal in frequency. Examined in this way the table does appear to indicate that early marriages are relatively more frequent in the North than in other sections and that in this respect conditions are little changed from those of pre-war years.

Table LXXIII.—Marriage-rate of Minors per 1,000 Marriageable Population aged 15–21 in Geographical Sections of the Country, 1921 and 1927.

	Males.				Females.			
	Rate per 1,000 Marriageable Population 15–21.		Ratio of local rate to England and Wales rate.		Rate per 1,000 Marriageable Population 15–21.		Ratio of local rate to England and Wales rate.	
	1921.	1927.	1921.	1927.	1921.	1927.	1921.	1927.
England and Wales.	7·7	6·0	1,000	1,000	23·4	21·6	1,000	1,000
North	9·3	6·5	1,208	1,094	26·1	22·5	1,115	1,041
Midlands ..	7·5	5·8	974	978	22·1	21·1	944	975
South (including London)	6·1	5·9	792	980	20·8	20·7	889	958
Wales ..	6·7	4·3	870	726	26·7	23·3	1,141	1,080
London ..	7·8	6·8	1,013	1,134	22·2	20·1	949	930

Buildings in which Marriages may be Solemnized.—At the end of the year 1927 the numbers of churches or chapels of the Established Church and of the Church in Wales and of registered buildings in which marriages could be legally solemnized, were as follows:—

Established Church and Church in Wales	16,321
All other religious denominations ..	19,355
Total	35,676

The increase upon the numbers at the end of the previous year was:—Established Church and Church in Wales 26, other

religious denominations 255. The number of these buildings belonging to the various denominations is shown for each registration county in Table Q.

By the Acts 15 and 16 Vict. c. 36, and 18 and 19 Vict. c. 81, it was enacted that all places of religious worship not being churches or chapels of the Established Church, should, if the congregations desired, be certified to the Registrar-General, certification for public worship being a necessary preliminary to the registration of a building for the solemnization of marriages.

The number of places of meeting for religious worship on the official register on 31st December, 1927, and the number of buildings registered for the solemnization of marriages are shown in Table LXXIV.

Table LXXIV.

Denomination.	Buildings certified to the Registrar-General as meeting-places for Religious Worship.	Buildings registered for the Solemnization of Marriages.*
Roman Catholics	1,715	1,602
Wesleyan Methodists	7,656	4,673
Congregationalists	3,398	3,127
Baptists	3,224	2,915
Primitive Methodists	4,291	2,149
United Methodist Church	1,971	1,330
Calvinistic Methodists	1,356	1,061
Presbyterians	445	445
Unitarians	181	197
New Church	56	60
Catholic Apostolic Church	62	48
Countess of Huntingdon's Connexion	45	40
Salvation Army	1,263	266
Society of Friends	411	†
Jews	267	†
Other Denominations	3,664	1,442
All Denominations	30,005	19,355

* Of these buildings nearly 1,000 were certified before 1852, as Places of Meeting for Religious Worship to some other Authority than the Registrar-General and therefore are not included in the preceding column.

† It is not necessary for buildings to be registered for the solemnization of Quaker or Jewish marriages. Under section 31 of the Births, Deaths, and Marriages Registration Act (1836) Registering Officers of the Society of Friends and Secretaries of Jewish Synagogues who have been certified to the Registrar-General record the marriages in each case.

The Marriage Act, 1898, provided that under specified conditions marriages might be solemnized in registered buildings in the presence of duly authorised persons without the attendance of a Registrar of Marriages. The governing bodies of some of the registered buildings have availed themselves of this provision, and at the end of the year 1927, the number of such buildings which had been brought under the operation of the Act, and so remained, was 5,769 out of the total of 19,355. The numbers of these buildings, and the denominations to which they belonged, were as follows :—

2,403 Wesleyan Methodists.
827 Congregationalists.
913 Primitive Methodists.
580 Baptists.
504 United Methodist Church.
147 Calvinistic Methodists.
395 Other Denominations and Unsectarian.

5,769 All Denominations.

Divorces and Remarriages of Divorced Persons. — The annual numbers of marriages dissolved or annulled are shown in Table O and again in the table below in terms of the persons involved, for each of the past ten years and the preceding quinquennia back to 1876–80.

During the year 1927, 3,124 divorces and 66 annulments were obtained, the number of persons involved being twice these figures, or a total of 3,190 of each sex. The sudden jump of nearly 22 per cent. in the annual numbers of judicially terminated marriages makes the 1927 total almost a record for a single year. It has only been rivalled on one earlier occasion when it was approached in 1920 and exceeded in 1921, the exceptional figures of those years being occasioned largely by the inevitable social readjustments which followed the termination of the war.

Table LXXV.—England and Wales: Annual Number of Persons Divorced, and of Divorced Persons who Remarried, 1876–1927.

Period.	Number of Persons Divorced.	Annual Number of Divorced Persons who remarried.							
		Total.	Men.	Women.	Divorced men marrying spinsters.	Divorced men marrying widows.	Divorced men and women inter-marrying.	Divorced women marrying bachelors.	Divorced women marrying widowers.
Average									
1876–80 ..	554	104	56	48	42	12	4	31	15
1881–85 ..	671	128	68	60	53	12	6	42	15
1886–90 ..	707	169	80	89	65	11	8	65	20
1891–95 ..	744	214	110	104	89	15	12	75	23
1896–1900 ..	980	345	172	173	138	24	20	126	37
1901–05 ..	1,126	509	262	247	205	38	38	181	47
1906–10 ..	1,247	693	356	337	276	53	54	253	57
1911–15 ..	1,312	820	411	409	330	50	62	309	69
1916–20 ..	3,115	1,264	683	581	525	127	62	439	111
1921–25 ..	5,467	3,050	1,708	1,342	1,316	295	194	976	269
1918..	2,222	885	495	390	390	81	48	288	78
1919..	3,308	1,352	708	644	538	142	56	510	106
1920..	6,180	2,370	1,314	1,056	981	272	122	795	200
1921..	7,044	2,878	1,592	1,286	1,182	330	160	939	267
1922..	5,176	3,374	1,913	1,461	1,457	360	192	1,062	303
1923..	5,334	3,008	1,679	1,329	1,307	279	186	1,002	234
1924..	4,572	2,903	1,627	1,276	1,267	275	170	931	260
1925..	5,210	3,088	1,729	1,359	1,367	229	266	944	282
1926..	5,244	3,124	1,710	1,414	1,325	231	308	995	265
1927..	6,380	3,576	1,924	1,652	1,509	244	342	1,133	348

From Table LXXV it will be seen that the number of persons who on remarriage described themselves as divorced has also increased, but at a considerably lower rate. The table brings out the contrast between the pre-war and post-war position, both in regard to the absolute numbers of divorced

persons remarrying and also in regard to the proportions of the sexes involved, for whereas formerly the numbers of males and females remarrying were about equal, there is now considerable male excess. But it must be borne in mind that these numbers may understate the facts, owing to misdescription of status in the registers.

In Table P are given certain particulars concerning the marriages in respect of which suits for dissolution or annulment were commenced during the year.

It will be seen from this Table that of the 3,490 suits commenced in the current year the most frequent duration of marriage at the date of commencement of the proceedings is from 5–10 years with an average of 242 for each of those years of duration, but the maximum is not of particular significance, for this period only accounts for 35 per cent. of the cases, there being 15 per cent. of shorter duration, while in 50 per cent. the marriages have subsisted for 10 years or more. More than 41 per cent. of the marriages in question were childless, and in a further 31 per cent. there was one child only.

LIVE BIRTHS.

The live births registered during 1927 numbered 654,172 corresponding to a birth-rate of 16·6 per 1,000 of the population living.

The number of births is 40,391 less than those of 1926, a diminution of 5·8 per cent., while the rate for the year is the lowest on record, not even excepting the worst of the war years, during which it was unusually depressed.

The decline since 1920 which marked the climax of the temporary spurt in the birth-rate following demobilisation has thus so far been uninterrupted. Up to last year it had shown a diminishing tendency and it had been inferred that the rate was more or less adjusting itself to current conditions and that the trough of the depression would be reached within a year or two at a level not materially below that of last year. But any inference based on the continuity of the recent progression of rates has been prejudiced by the new acceleration of the fall now disclosed and it would clearly be unsafe at the present time to attempt to draw conclusions as to the future position. The intensity of the fall shown by the 1927 births is no doubt largely the product of the abnormal decline in the number of new marriages in 1926 which would of itself have a direct and immediate effect on the ensuing births, and also of the more general causes responsible for that decline, viz. the prolonged coal strike and associated industrial disturbance of 1926. It may be noted, however, that whereas the sudden depression in the marriage-rate was of exceedingly short duration and has been fully complemented by the equally favourable rise in 1927, the births for 1928 show no such reactionary tendency, the numbers so far recorded indicating that the rate for 1928 will be very similar to that of the current year.

The birth-rate in this country attained its highest values during the period 1865–1880, when it exceeded 35 per 1,000 population, and from that time it diminished by gradual and practically continuous stages to 23·8 in 1914; it is now 16·6 per 1,000, less than half the maximum figure of 36·3 recorded in 1876, and having regard to current economic and industrial conditions appears likely for some time to remain low in relation to all earlier periods for which we have reliable records.

Table LXXVI.—British and Foreign Birth-Rates (living born) per 1,000 total population.

Year.	England and Wales.	Scotland.	Northern Ireland.	Irish Free State.	Austria.	Belgium.	Czecho Slovakia.	Denmark.	Finland.	France.	Germany.	Hungary.	Italy.
1911	24·4	25·6	23·3		*31·4	22·9	—	26·7	29·1	*18·7	*28·6	*34·7	*31·5
1912	24·0	25·9	23·0		*31·3	22·6	—	26·6	29·1	*18·9	*28·3	*35·8	*32·4
1913	24·1	25·5	22·8		*29·7	22·4	—	25·6	27·2	*18·2	*27·5	*34·3	*31·7
1914	23·8	26·1	22·6		23·3	20·4	—	25·6	26·9	*17·9	*26·8	*34·5	*31·1
1915	21·8	23·9	22·0		18·4	16·1	—	24·2	25·4	*11·6	*20·4	*23·6	*30·5
1916	21·0	22·9	21·0		14·7	12·9	—	24·4	24·1	*9·5	*15·2	*16·8	*24·0
1917	17·8	20·3	19·8		13·9	11·3	—	23·7	24·3	*10·5	*13·9	*16·0	*19·5
1918	17·7	20·5	20·0		14·1	11·3	—	24·1	23·8	*12·2	*14·3	*15·3	*18·1
1919	18·5	21·7	20·0		18·0	16·3	22·4	22·6	19·2	*12·6	20·0	28·9	*21·4
1920	25·5	28·1	22·2		22·4	22·1	26·6	25·4	25·3	21·3	25·9	32·4	*31·8
1921	22·4	25·2	20·2		22·9	21·8	29·0	24·0	24·3	20·7	25·3	31·6	*30·3
1922	20·4	23·5	23·3	19·5	23·2	20·4	28·1	22·2	23·4	19·3	22·9	30·6	30·2
1923	19·7	22·8	23·9	20·5	22·5	20·4	27·3	22·3	23·7	19·1	21·0	29·2	29·4
1924	18·8	21·9	22·7	21·1	21·7	19·9	25·8	21·8	22·4	18·7	20·5	26·8	28·4
1925	18·3	21·3	22·0	20·8	20·6	19·8	25·1	21·0	22·3	18·9	20·7	28·3	27·8
1926	17·8	20·9	22·5	20·6	19·2	19·0	24·6	20·5	21·7	18·8	19·5	27·3	27·2
1927	16·6	19·8	21·3	20·3	17·8	18·2	—	—	—	18·1	18·3	25·2	26·9

Year.	Netherlands.	Norway.	Portugal.	Roumania.	Spain.	Sweden.	Switzerland.	Australia.	Canada.	New Zealand.	South Africa (Whites).	U.S.A. (Registration Area).	Japan.
1911	27·9	25·7	—	*42·3	31·4	24·0	24·2	27·2	—	26·0	32·2	—	34·0
1912	28·1	25·4	—	*43·3	31·6	23·8	24·2	28·6	—	26·5	32·2	—	33·3
1913	28·3	25·1	31·9	*42·1	30·4	23·2	23·2	28·2	—	26·1	31·7	—	33·2
1914	28·3	25·1	—	*42·8	29·8	22·9	22·4	27·9	—	26·0	30·2	—	33·7
1915	26·3	23·6	—	*40·5	30·8	21·6	19·5	27·1	—	25·3	29·3	25·1	33·1
1916	26·6	24·2	31·0	—	28·9	21·2	18·9	26·6	—	25·9	29·3	25·0	32·7
1917	26·2	25·1	30·3	—	28·8	20·9	18·5	26·3	—	25·7	28·5	24·7	32·3
1918	25·0	24·6	28·6	—	29·1	20·3	18·7	25·0	—	23·4	28·6	24·6	32·2
1919	24·4	22·7	26·0	—	28·3	19·8	18·6	23·5	—	21·4	26·9	22·3	31·6
1920	28·3	26·1	33·6	33·2	30·0	23·6	20·9	25·5	26·6	25·1	29·0	23·7	36·2
1921	27·4	24·0	30·3	38·2	30·4	21·5	20·8	25·0	26·4	23·3	28·4	24·3	35·1
1922	25·9	23·1	33·6	37·2	30·5	19·6	19·6	24·7	25·2	23·2	27·5	22·5	34·2
1923	26·0	22·5	—	36·4	30·6	18·8	19·4	23·8	23·9	21·9	26·7	22·4	34·9
1924	25·1	21·1	—	36·7	29·9	18·1	18·8	23·2	23·7	21·6	26·8	22·6	33·8
1925	24·2	20·0	—	35·2	29·3	17·5	18·4	22·9	23·0	21·2	26·5	21·4	34·9
1926	23·8	19·7	—	—	29·4	16·9	18·2	22·0	24·8	21·1	26·2	20·6	34·8
1927	23·1	18·2	—	—	28·6	16·1	17·4	21·7	24·6	20·3	26·0	20·4	—

* Pre-war area.

The recent history of the birth-rate in this country may be compared with those of a number of other countries of which particulars are at hand by reference to Table LXXVI. The record extends over the period from 1911 to 1927 (for earlier years, *see* the Registrar-General's Annual Report for 1910) and covers therefore not only the years of the war period itself when the movements were quite abnormal, but a number of both earlier and later

years sufficient to indicate the more prolonged changes which may probably be associated with the events of that period.

Broadly speaking the birth-rate in all the countries listed in the table has followed a common course throughout the period identified. Up to the outbreak of war the years were, on the whole, uneventful, the only observable tendency being that of a slow decline in most countries which was but a normal extension of the more prolonged fall of earlier decades. Then followed a series of unprecedented changes the violence of which destroyed all continuity with previous records and affected all countries both belligerent and neutral, the difference being one of degree only in that the disturbance was greatest among European belligerents. First there was a rapid acceleration of the previous slow decline which lasted till 1918 or 1919 when the rates touched levels never before experienced and then, with the cessation of hostilities an even more sudden rebound to new maxima which were everywhere reached in 1920 except in Austria, where the peak occurred two years later. The high rates of 1920 were immediately followed by a fresh reaction in the shape of a new decline which, sharp at first, has in most countries continued with occasional interruption down to the present time; from the steepness of the latest portions of many of the curves the reductions appear likely to continue in the near future.

In all the countries listed except France and Japan the current rates show a large fall in comparison with pre-war experience, a fall which in respect of England and Wales is the more serious since the position of this country in relation to that of others was already a low one before the war, while to-day it is lower than any country save Sweden. The case of France is somewhat exceptional in that the current rate is at about the same level as it was before the war, so that instead of being outstandingly the worst in the series as formerly, it now ranks above Switzerland, England and Wales and Sweden.

The crude birth-rate, or ratio of births to population of all ages, is a convenient form of statement when the object in view is to record the aggregate effect of all the various factors governing reproduction. It sums up the effects of all the influences governing the rate at which the community is reproducing itself and is, therefore, in conjunction with the corresponding form of mortality statement, the crude death-rate, the appropriate means of measuring natural increase. The number of births in the country, however, depends mainly upon the number of married women at the reproductive ages, and as they form less than one-eighth of the total population the variation of their numbers and ages over a period of time may be different from that of the whole population, in which case the crude birth-rates form but an imperfect measure of the changes in fertility, *i.e.*, of the rate of reproduction in proportion to the opportunity of reproduction. In the absence of any knowledge of the constitution of the general population the crude rate is often used as an index of fertility,

Table LXXVII.—England and Wales.—Birth-rates and Fertility, 1871–1927.

	Births per 1,000 Total Population.	Ratio to 1921.	Births per 1,000 Married Women, 15-45.	Ratio to 1921.	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
Legitimate Births.					
1871 (1870–72) ..	33·3	1,556	292·5	1,659	1,504
1881 (1880–82) ..	32·3	1,509	286·0	1,622	1,481
1891 (1890–92) ..	29·4	1,374	263·8	1,496	1,382
1901 (1900–02) ..	27·5	1,285	235·5	1,336	1,250
1911 (1910–12) ..	23·4	1,093	197·4	1,120	1,102
1921	**21·4**	**1,000**	**176·3**	**1,000**	**1,000**
1922	19·5	911	160·7	912	909
1923	18·9	883	155·3	881	877
1924	18·1	846	148·4	842	835
1925	17·5	818	143·5	814	805
1926	17·0	794	139·8	793	783
1927	15·9	743	130·8	742	732

	Births per 1,000 Total Population.	Ratio to 1921.	Births per 1,000 Unmarried Women, 15-45.	Ratio to 1921.	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
Illegitimate Births.					
1871 (1870–72) ..	1·96	1,922	17·0	2,152	2,051
1881 (1880–82) ..	1·65	1,618	14·1	1,785	1,688
1891 (1890–92) ..	1·31	1,284	10·5	1,329	1,247
1901 (1900–02) ..	1·12	1,098	8·5	1,076	1,008
1911 (1910–12) ..	1·03	1,010	7·9	1,000	968
1921	**1·02**	**1,000**	**7·9**	**1,000**	**1,000**
1922	0·89	873	7·0	886	937
1923	0·82	804	6·5	823	863
1924	0·78	765	6·2	785	826
1925	0·74	725	5·9	747	790
1926	0·76	745	6·0	759	810
1927	0·74	725	5·9	747	795

	Births per 1,000 Total Population.	Ratio to 1921.	—	—	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.
All Births.					
1871 (1870–72) ..	35·3	1,576	—	—	1,527
1881 (1880–82) ..	34·0	1,518	—	—	1,490
1891 (1890–92) ..	30·7	1,371	—	—	1,376
1901 (1900–02) ..	28·6	1,277	—	—	1,238
1911 (1910–12) ..	24·4	1,089	—	—	1,095
1921	**22·4**	**1,000**	—	—	**1,000**
1922	20·4	911	—	—	910
1923	19·7	879	—	—	876
1924	18·8	839	—	—	834
1925	18·3	817	—	—	804
1926	17·8	795	—	—	784
1927	16·6	741	—	—	734

but always on the implied assumption of a fixed proportion of potential mothers, an assumption which may only reasonably be made in respect of short periods of adjacent years.

In order to exclude the effect of varying population constitution and so obtain a truer statement of fertility change, the method of standardization, described in the 1922 Review and adopted in connexion with the statistics of the years 1922–1926,

has been continued to cover the experience of 1927. It consists in (1) adopting the fertility curve or fertility ratios experienced in 1921 as a standard, (2) applying them age by age to the appropriate women in the population in question—for the years subsequent to 1921 estimates of such women have been made for the purpose—and so obtaining a standard number of births, the numbers which would have occurred had the standard birth-rates been operating, and (3) calculating the ratio of the actual births recorded to the standard or expected number; the ratio of actual to expected is thus an index, comparing in an integral form the actual experience of each period or year with a common standard and, therefore, with one another.

Standardized comparisons are given in the last column of Table LXXVII. both for census years prior to 1921 and for individual years of the present inter-censal period and the results are contrasted in that table with the more familiar and more approximate comparisons given by the cruder birth-rates, whether calculated per 1,000 total population or per 1,000 married women between ages 15 and 45. Thus, in 1871, 1,504 legitimate births were recorded for every 1,000 that would have occurred under the standard fertility rates, the 1921 experience being in the aggregate only two-thirds of that of 50 years ago. From that time the rates diminished steadily and progressively as shown by the comparative figures, which are 1,481, 1,382, 1,250, and 1,102 at successive ten-year intervals between 1881 and 1911. Since 1921 the even more rapid drop, commented upon in dealing with the crude rates, is shown by the further reductions in the index which is shown for 1927 as 732, less than three-fourths of the 1921 standard. It will be observed that over the earlier years shown in the table the decrease in fertility was overstated by the crude rates, and that since 1911 the tendency has been in the other direction.

Illegitimate Births.—The live births registered during 1927 include 29,023 of illegitimate children, a decrease of 568 on the number in 1926, coincident with the decrease of 40,391 in total births. Illegitimate births have thus decreased by 1·9 per cent., and legitimate births by 6·0 per cent. As a result of these changes, the proportion of illegitimate to total births has risen slightly from 4·26 per cent. last year to 4·44 per cent., figures which compare with the minimum of 3·95 per cent. recorded for the period 1901–1905 and the maximum of 6·26 per cent. attained in 1918.

In addition to the crude rate comparison an attempt has been made in Table LXXVII to allow for the age incidence of the potential mothers in respect of illegitimate as well as legitimate births. The standard age factors employed are, as described in the 1922 Review, of less authority than those in respect of legitimate fertility, and serve mainly to complete the tables on the lines followed and already described for married women.

Birth-rates of Different Parts of the Country.—The birth-rates, total and illegitimate, of individual administrative areas tabulated in Table E are summarized in Table LXXVIII.

Table LXXVIII.—England and Wales and Sections* of the Country.—Birth-rates, 1921 and 1927.

	1921.			1927.		
	Birth-rate per 1,000 Total Population.	Ratio to Rate for England and Wales. (Crude Rates.)	Ratio of Actual Births to those which would have occurred had the Standard age rates been operating.	Birth-rate per 1,000 Total Population.	Ratio to Rate for England and Wales. (Crude Rates.)	Ratio Corrected to Exclude Variations due to Differing Age and Marital Condition Incidence.†
	(1)	(2)	(3)	(4)	(5)	(6)
All Births—						
England and Wales	**22·4**	**1,000**	**1,000**	**16·6**	**1,000**	**1,000**
London	22·1	987	957	16·1	970	941
County Boroughs	23·5	1,049	1,004	17·4	1,048	1,003
Other Urban Districts ..	22·1	987	978	16·1	970	961
Rural Districts	21·4	955	1,060	16·7	1,006	1,116
Northern Counties	23·7	1,058	1,025	17·3	1,042	1,009
County Boroughs	24·0	1,071	1,026	17·8	1,072	1,027
Other Urban Districts ..	23·1	1,031	996	16·4	988	954
Rural Districts	23·7	1,058	1,099	17·9	1,078	1,120
Midland Counties	22·2	991	999	16·9	1,018	1,026
County Boroughs	23·6	1,054	1,000	17·6	1,060	1,006
Other Urban Districts ..	21·6	964	964	16·3	982	982
Rural Districts	21·2	946	1,054	16·8	1,012	1,128
Southern Counties (including London).	20·4	911	941	15·4	928	959
County Boroughs	19·8	884	887	15·2	916	919
Other Urban Districts ..	18·9	844	898	14·6	880	936
Rural Districts	19·1	853	994	15·2	916	1,067
Wales	25·0	1,116	1,099	17·2	1,036	1,020
County Boroughs	24·9	1,112	1,035	17·8	1,072	998
Other Urban Districts ..	26·7	1,192	1,101	17·0	1,024	946
Rural Districts	22·6	1,009	1,143	17·1	1,030	1,167
Illegitimate Births—						
England and Wales	**1·02**	**1,000**	**1,000**	**0·74**	**1,000**	**1,000**
London	0·89	873	788	0·76	1,027	927
County Boroughs	1·09	1,069	1,034	0·77	1,041	1,007
Other Urban Districts ..	0·96	941	944	0·65	878	881
Rural Districts	1·07	1,049	1,197	0·81	1,095	1,249
Northern Counties	1·12	1,098	1,091	0·77	1,041	1,034
County Boroughs	1·15	1,127	1,091	0·81	1,095	1,060
Other Urban Districts ..	1·04	1,020	1,030	0·66	892	901
Rural Districts	1·17	1,147	1,257	0·84	1,135	1,244
Midland Counties	1·00	980	992	0·71	959	971
County Boroughs	1·04	1,020	975	0·71	959	917
Other Urban Districts ..	0·91	892	869	0·64	865	843
Rural Districts	1·07	1,049	1,234	0·82	1,108	1,303
Southern Counties (including London).	0·92	902	877	0·74	1,000	972
County Boroughs	1·04	1,020	1,030	0·81	1,095	1,106
Other Urban Districts ..	0·91	892	864	0·67	905	877
Rural Districts	0·92	902	1,029	0·75	1,014	1,157
Wales	1·03	1,010	1,108	0·73	986	1,082
County Boroughs	0·77	755	751	0·65	878	873
Other Urban Districts ..	1·02	1,000	1,134	0·64	865	981
Rural Districts	1·22	1,196	1,320	0·92	1,243	1,372

* For constitution of Geographical Sections of the Country *see* page 11.

† Col. (6) has been obtained by multiplying col. (5) by the correcting factor referred to in the text, viz., col. 3 ÷ col. 2.

The method employed in earlier paragraphs for comparing the fertility of England and Wales in different years by the use of a standard fertility curve applies equally well of course to the comparison of fertility in different sections of the population of which the sex, age and marital condition constitution is known, and the crude rate comparisons are supplemented in this table by the addition of a series of figures in which variations in birth-rates due solely to differences in the age and marital condition proportions of the several populations have been, as far as possible, eliminated.

The first three columns of Table LXXVIII show for each of the specified divisions of the country the crude birth-rate of 1921, the ratio of the crude rate to that of the country as a whole, and the corresponding ratio obtained by the use of the standard fertility rates in conjunction with the census populations of that year. For later years local populations analysed by age and marital condition are not available, and an approximate correction to the crude rate comparison of 1927 shown in col. 5 has been made as follows :—The difference between cols. 2 and 3 has been regarded as a measure of the variation due to the constitution of the population and in the form of a factor, viz., col. 3÷col. 2, has been applied to the crude 1927 birth ratio to obtain the corrected ratio shown in col. 6. The implied assumption that the constitutions of the local populations remain in constant relation to one another could not be maintained over a long period of time, but for the years of an inter-censal period corrected ratios obtained in this way will probably provide a truer picture of the incidence of fertility than that shown by the unadjusted crude rates.

For 1927 the diminution in births has been common throughout all of the areas and sections shown in the table ; its geographical incidence is very similar to that noted in respect of marriages last year and confirms its direct association with the industrial events of that year. In the principal coal mining and using centres, Wales and the North, the rates are down by 10·9 and 8·0 per cent. respectively as compared with the much smaller decreases of 5·5 and 4·5 per cent. in the South and the Midlands. In spite of their heavier reductions the rates of the North and Wales are still above the average for the country as a whole, but Wales has lost its marked ascendancy over other areas and the Midlands, hitherto slightly below the general average, now ranks slightly above.

The modification of the usual order, which has been maintained with great constancy for many years, is shown in the following table, which states the birth-rate of each section as a percentage of that of the whole country for each of the past ten years.

Table LXXIX.—Birth-rate of Different Sections of the Country per cent. of that of England and Wales, 1918–27.

——	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
North ..	106	105	103	106	104	104	106	105	106	104
Midlands..	98	97	100	99	100	99	99	99	99	102
South ..	90	93	96	91	94	94	92	92	92	93
Wales ..	122	112	105	112	107	110	112	110	108	104

These percentages are based upon the crude rates and reflect therefore not only differences of fertility but also the varying incidence of sex, age, and marital condition in the populations from which they arise. When the latter is eliminated as is attempted in column 6 of Table LXXVIII, the standardized percentage ratios become 100·9, 102·6, 95·9 and 102·0 for the North, Midlands, South and Wales respectively, the Midlands occupying the highest position and the North being placed third out of the four instead of first as suggested by the crude rates. If the areas be examined from the point of view of urbanization the change from the crude to the standardized comparison is even more notable. By the crude rates the position of rural areas is distinctly understated, since from the point of view of fertility alone they are shown to be the most productive of all areas, not only for the country as a whole, but for each of the four geographical sections. Similarly in the urban districts of the South, which yield the lowest rate shown in the table, part of the lowness is due to the unfavourable constitution of the population, for the ratio to the England and Wales rate is raised from 88·0 per cent. to 93·6 per cent. upon standardization. On the other hand the towns of Wales and in a lesser degree London and the county boroughs of the North and Midlands are overfavoured by a comparison limited to the crude ratios alone. Amongst the towns in each of the geographical sections the births of 1927 were relatively more frequent in the more populous areas.

The extent of illegitimacy in different classes of area and parts of the country may be gathered from the lower half of Table LXXVIII. There has been a consistent fall in the smaller towns of each geographical region but except for this and a wider range of variation generally the distribution is not significantly different from that of all births; the highest rates occur in the rural districts throughout.

It will be seen that whereas for all births the rural aggregate rate is 11·6 per cent. above the mean, for illegitimate only it is 24·9 per cent. above. The table confirms generally the view expressed in earlier reports, when only crude rate comparisons were available, that such rates understated the position in rural districts and overstated it in the South.

Sex Proportions at Birth.—Births of males in England and Wales in 1927 numbered 333,737, and those of females 320,435 ; the proportion of male to female births was 1,041, 1,051, and 1,042 to 1,000 for legitimate, illegitimate, and total births respectively. The corresponding proportions for total births in each year from 1888 onwards and in groups of years since the commencement of registration are shown in Table C (Part II) ; the extreme range during the preceding 50 years was from 1,032 per 1,000 in 1898 to 1,060 in 1919. During this period the highest ratio recorded prior to the war was 1,042 in 1878. From 1919 the male excess has fallen almost continuously to the present time, the current ratio of 1,042 approaching that of the years immediately preceding the war.

The extent to which different classes of area or portions of the country contribute to the preponderance of male births is shown in Table LXXX.

Table LXXX.—Male Births per 1,000 Female Births, 1927.

———	England and Wales.	North.	Midlands.	South.	Wales.
All Areas	1,042	1,036	1,051	1,043	1,022
London	—	—	—	1,041	—
County Boroughs ..	1,044	1,036	1,057	1,057	1,030
Other Urban Districts	1,038	1,040	1,044	1,042	1,008
Rural Districts ..	1,043	1,031	1,052	1,040	1,038

There is however much variability in the relative incidence of masculinity, and the figures for 1927 afford no reliable guide to the ascertainment of any characteristic differences.

Births in Institutions, 1927.

An incidental tabulation of a section of the births registered in 1927, which may to a certain degree be regarded as illustrative of modern tendencies governing maternity and maternity welfare generally, and which may usefully be put on record in the current Annual Review, is given in Table LXXXI.

The Table shows the numbers and frequencies of the live births which were recorded as having taken place in institutions, the latter being divided between the two broad categories of Poor Law Institutions on the one hand, and Hospitals, Maternity Homes, etc., on the other, while the births themselves are classified according to legitimacy and area of occurrence.

Altogether 97,933, about 15 per cent. of the total of 654,172 live births registered in England and Wales, took place in institutions of various kinds, viz., 3·3 per cent. in Poor Law Institutions and 11·7 per cent. in others. Of the legitimate births alone, the

institutional confinements represented 14 per cent. in all, rather more than one-sixth or 2·5 per cent. of the total being allocated to Poor Law institutions; in respect of illegitimate cases, the proportions which, owing to lack of home facilities rather than predisposition to institutional treatment, are of a higher order, are 19·5 per cent. in Poor Law Institutions and 17·0 per cent. in others or 36·5 per cent. of the total illegitimate births of the country.

The general features of the distribution so described are observable throughout the country, but it should be noted that the areal classification of the births is by area of occurrence and not of the residence of the parties concerned. So that the geographical incidence will be conditioned partly, if not predominantly by the amount of lying-in accommodation available in the several areas. Thus in London, as might be expected, all the proportions are markedly in excess of those recorded elsewhere while in the home counties and generally in the denser centres of population, Lancashire, Leicestershire, Northumberland, Warwick, etc., they are, as a rule, above the average. The climatically favourable counties of the South and South Midlands also show some advantage whereas in rural and sparsely populated areas the proportions are usually low.

The only other tabulation of a similar nature prepared in the Department is in respect of the year 1920 and relates to births occurring in Poor Law Institutions in that year. The results are shown side by side with those of the current year in Table LXXXI. It will be observed that legitimate births in Poor Law Institutions have, in numbers, increased by some three and a half times, and that similar illegitimate births are less than three quarters of what they were seven years ago; if, however, regard be had to the large decrease in the total births registered, viz., from 957,782 in 1920 to 654,172 in 1927, the incidence of institution births is shown to have increased both in respect of legitimate and illegitimate births, the former from 0·5 to 2·5 per cent. and the latter from 17·1 to 19·5 per cent. It is understood that, as part of the maternity welfare work of the country, numbers of infirmary beds have been made available for this purpose, but it should be borne in mind also that the activities of Poor Law Institutions to which this comparison is limited are very greatly influenced by economic conditions and that in this respect, the year 1920, with its high wages and low unemployment was in direct contrast with the industrial depression of the present time; it is accordingly impossible to say how much of the increased recourse to institutions for maternity is due to impoverishment and how much to national policy or increasing individual recognition of the superiority of institutional treatment. That aspect of the subject must await the production of a series of records and it is hoped, therefore, that the 1927 table may be followed by the production of similar statistics at suitable intervals in the future.

Table LXXXI.—Births in Institutions, 1920 and 1927.

Area.*	1927.								1920.			
	Number of Births.				Percentage of total legitimate or illegitimate births in area.				Number of Births.		Percentage of total legit. or illegit. births in area.	
	In Workhouses, Infirmaries and other Poor Law Institutions.		In Hospitals, Nursing Homes and Maternity Homes.		In Workhouses, Infirmaries and other Poor Law Institutions.		In Hospitals, Nursing Homes and Maternity Homes.		In Workhouses, Infirmaries and other Poor Law Institutions.		In Workhouses, Infirmaries and other Poor Law Institutions.	
	Legit.	Illegit.	Legit.	Illegit.	Legit.	Illegit.	Legit.	Illegit.	Legit.	Illegit.	Legit.	Illegit.
All Areas :—	15,850	5,660	71,502†	4,921†	2·5	19·5	11·4	17·0	4,478	7,689	0·5	17·1
England and Wales	6,096	1,814	20,405	1,454	2·8	17·9	9·3	14·3	1,447	2,129	0·5	13·3
North	4,068	1,627	17,950	780	2·0	19·4	8·9	9·3	920	2,152	0·3	16·3
Midlands	5,541	1,935	31,544	2,548	3·4	22·5	19·6	29·7	2,034	3,022	0·8	24·0
South (including London)	145	284	1,603	139	0·3	14·8	3·6	7·2	77	386	0·1	12·7
Wales	4,513	1,107	19,905	1,834	6·3	26·3	27·7	43·6	1,657	1,746	1·4	29·0
London												
Administrative Counties together with Associated C.B's :—												
Bedford	17	17	137	29	0·6	11·7	4·5	20·0	6	37	0·1	14·5
Berks	30	45	500	22	0·7	19·5	11·8	9·5	6	64	0·1	17·7
Buckingham	8	17	117	2	0·2	16·0	3·4	1·9	4	25	0·1	11·3
Cambridge	7	5	180	24	0·4	6·3	9·9	30·0	1	14	0·0	9·9
Chester	319	99	1,556	73	2·0	15·2	9·8	11·2	74	161	0·3	15·7
Cornwall	18	42	148	24	0·4	18·4	3·3	10·5	6	57	0·1	17·3
Cumberland	8	14	244	23	0·2	5·3	5·5	8·6	4	30	0·1	6·9
Derby	31	53	1,566	33	0·2	10 4	12·2	6·5	15	71	0·1	8·8
Devon	44	84	1,350	113	0·4	16·2	13·3	21·7	17	123	0·1	17·4
Dorset	10	20	234	14	0·3	14·7	6·7	10·3	12	30	0·3	12·5
Durham	88	117	1,320	76	0·3	10·0	4·4	6·5	51	213	0·1	10·1
Ely, Isle of	6	12	20	—	0·4	15·8	1·5	—	4	21	0·2	15·8
Essex	391	162	3,064	84	1·6	22·8	12·3	11·8	138	222	0·4	19·5
Gloucester	88	85	1,956	149	0·7	15·3	16·5	26·8	25	152	0·1	19·7
Hereford	5	14	54	6	0·3	13·6	3·1	5·8	6	21	0·2	10·8
Hertford	166	59	558	21	3·3	32·8	11·0	11·7	25	64	0·4	22·7
Huntingdon	1	6	9	—	0·1	14·6	1·0	—	1	14	0·1	16·9
	199	125	2,184	49	1·2	17·4	12·9	6·8	55	212	0·2	17·1
								13·0	972	1,049	0·8	17·9

Lincoln, Holland	4	11	1	—	0·3	11·7	0·1	—	4	19	0·2	12·9
,, Kesteven ..	3	14	80	2	0·2	12·1	4·5	1·7	—	5	—	3·2
,, Lindsey	16	55	330	15	0·2	12·6	4·8	3·4	8	66	0·1	11·5
Middlesex	1,230	172	2,060	51	6·5	26·6	10·9	7·9	80	254	0·3	24·7
Norfolk	38	71	509	46	0·5	15·1	6·6	9·8	14	79	0·1	11·1
Northampton	10	29	200	22	0·2	13·9	4·8	10·6	7	40	0·1	12·2
Northumberland	97	79	1,695	181	0·7	11·9	12·0	27·3	26	108	0·1	11·2
Nottingham	70	113	669	30	0·6	17·5	5·8	4·7	62	149	0·4	14·1
Oxford	13	25	588	33	0·5	18·0	20·9	23·7	12	30	0·3	13·0
Peterborough, Soke of ..	3	4	28	1	0·4	8·2	3·7	2·0	—	8	—	9·3
Rutland	—	—	1	—	—	—	0·4	—	—	4	—	13·8
Salop	28	40	315	9	0·7	15·7	8·1	3·5	7	62	0·1	14·8
Somerset	16	34	475	47	0·3	13·0	7·6	18·0	12	92	0·1	22·5
Southampton	120	136	3,002	173	0·8	16·9	19·7	21·5	88	220	0·4	20·4
Stafford	365	174	698	55	1·4	18·6	2·6	5·9	66	230	0·2	14·2
Suffolk, East	8	34	161	13	0·2	14·5	3·6	5·6	7	54	0·1	13·2
,, West	7	14	162	2	0·5	20·0	10·4	2·9	9	34	0·4	20·2
Surrey	496	206	2,077	154	3·7	29·8	15·4	22·3	125	243	0·7	26·7
Sussex, East	62	71	839	84	1·0	17·9	13·3	21·2	41	129	0·4	19·8
,, West	21	35	184	19	0·8	24·8	6·7	13·5	7	52	0·2	23·1
Warwick	1,489	353	3,018	92	5·9	37·0	11·9	9·6	389	365	1·1	27·0
Westmorland	1	4	104	15	0·1	6·8	11·1	25·4	2	7	0·2	6·9
Wight, Isle of	3	2	49	1	0·3	4·4	4·6	2·2	1	7	0·1	7·6
Wilts	9	28	597	14	0·2	13·5	13·5	6·8	7	47	0·1	13·6
Worcester	22	36	187	19	0·3	14·4	2·8	7·6	10	44	0·1	12·0
Yorks, East Riding ..	26	66	785	82	0·3	13·4	9·2	16·6	12	81	0·1	12·3
,, North	132	48	428	9	1·6	12·1	5·3	2·3	6	54	0·1	7·8
,, West	804	334	5,740	494	1·5	13·0	10·6	19·2	298	400	0·4	9·7
York C.B.	9	26	156	6	0·7	35·1	12·3	8·1	2	26	0·1	20·8
Anglesey	—	7	—	—	—	10·6	—	—	—	6	—	5·2
Brecknock	1	5	12	—	0·1	9·3	1·2	—	—	2	—	2·5
Caernarvon	8	23	56	10	0·5	17·2	3·3	7·5	3	21	0·1	10·0
Cardigan	—	4	21	3	—	6·6	3·0	4·9	—	5	—	7·1
Carmarthen	4	13	4	—	0·1	10·9	0·1	—	3	13	0·1	7·6
Denbigh	20	10	68	4	0·8	7·8	2·7	3·1	2	20	0·1	9·0
Flint	11	14	94	4	0·6	15·6	5·1	4·4	3	22	0·1	15·4
Glamorgan	80	148	1,136	99	0·4	19·2	5·1	12·8	45	207	0·1	15·9
Merioneth	3	3	—	—	0·5	6·3	—	—	3	11	0·4	12·9
Monmouth	16	39	165	19	0·2	13·7	2·1	6·7	15	55	0·1	13·1
Montgomery	2	7	13	—	0·2	11·3	1·6	—	—	6	—	5·8
Pembroke	—	6	18	—	—	7·8	1·2	—	3	12	0·1	11·1
Radnor	—	5	16	—	—	20·8	4·5	—	—	6	—	22·2

* For constitution of geographical divisions see p. 11.

† Including Births in Asylums, viz. 8 Legitimate and 15 Illegitimate.

STILLBIRTHS.

Under the Births and Deaths Registration Act, 1926, the birth registration procedure of this country, which has hitherto been restricted to the registration of live births, was extended to embrace the births of stillborn children.

The absence of such registration has for many years been recognised as a defect in our registration system both on account of its importance as a safeguard for the protection of infant life and also on account of the value of a knowledge of the facts as to the frequency of stillbirths in the elucidation of the causes of both ante-natal and post-natal mortality. This has now been remedied as from the 1st July, 1927, the date at which the Act came into operation, and the practice of this country brought into line with what has for long been the rule in a number of other countries.

Prior to the Act, however, a preliminary step in this direction had already been taken in the Notification of Births (Extension) Act, 1915, under which the procedure of notifying births to the local Medical Officer of Health which had, up to that time, been of an optional character was made obligatory throughout the country both in respect of stillbirths as well as live births. The numbers of notifications so received have been published in the successive reports, from 1919 onwards, of the Chief Medical Officer to the Ministry of Health and the totals together with the corresponding percentages to live births are reproduced in the following statement.

England and Wales.

Year.	Number of Stillbirths Notified.	Number of Stillbirths per 100 Registered Live Births.
1918	19,757	3·0
1919	22,410	3·2
1920	29,466	3·1
1921	26,746	3·2
1922	24,980	3·2
1923	25,019	3·3
1924	24,008	3·3
1925	23,136	3·2
1926	22,678	3·3

The successive totals are reasonably consistent with one another but it appears probable from comparison of the percentages with the proportion obtained under the complete registration procedure (see below) that the notifications were deficient by a material number of omissions and that they are not properly comparable therefore with the statistics which will henceforth be available under the 1926 Act.

But though registration itself is not uncommon the practice as regards the point at which the line is to be drawn between

live births and stillbirths and as to exactly what class of cases should be included within the latter category differs; it is necessary therefore in considering the position in this country either alone or in relation to that of others to have regard to the precise meaning attached to the term. This is governed by definition laid down in the above mentioned Act and is as follows :—

> " ' Stillborn ' and ' stillbirth ' shall apply to any child which has issued forth from its mother after the twenty-eighth week of pregnancy and which did not at any time after being completely expelled from its mother breathe or show any other signs of life."

The criterion is then the absence of life at the point of time of complete expulsion and is independent of separation or of viability. The only factor restricting its general application is that of the minimum duration imposed in respect of the period of gestation. In reference thereto it should be noted that the introduction of a time limit, inevitable in the case of a stillbirth, does not affect in any way the existing practice regarding live births ; a child which after complete expulsion shows any signs of life is regarded as a live birth even if the birth occurs before the end of the twenty eight weeks and is registrable as such in accordance with the ordinary procedure.

Registration having been compulsory only in respect of stillbirths occurring on and after the 1st July, 1927, the numbers registered in 1927 relate only to the latter half of the year; and since some allowance must be made for inevitable delay between birth and registration the record will be in respect of a period of rather less than six months. Unlike live-birth registration, however, where the period between birth and registration is frequently as much as a month or more, stillbirth registration is linked administratively with the burial procedure; and the necessity of early disposing of the body automatically reduces the delay to a minimum and thereby secures a closer correspondence between the records and facts in a given period. At the same time it may be noted that such record, like that also of the deaths of infants under one year old, will usually be slightly out of phase with the corresponding live birth record with which each of them is usually compared.

The stillbirths registered between the 1st July and the 31st December, 1927, numbered 12,586, corresponding to a rate of 40 per 1,000 live births registered in the six months.

The distribution of the total according to sex, legitimacy and geographical incidence is shown in Table LXXXII, in which also the numbers are converted into the more readily comparable form of rates per 1,000 live births.

While a full statistical treatment of this latest addition to our vital records must necessarily await the production of a larger body of facts than is available from the first six months' operation of the Act, it may be noted that the relative frequencies shown

by the right-hand half of the table are generally in accord with the older experiences of other countries and are sufficiently definite and consistent in themselves to bring out what must be expected to be the main features of the stillbirth record in this country. Thus wherever the numbers are large enough to form a satisfactory basis of fact the frequency of stillbirth amongst males is shown to be definitely greater than it is amongst females; for the country as a whole the male frequency is about 20 per cent. higher, a figure which is maintained with considerable uniformity throughout the several sections distinguished Similarly, as between legitimate births and illegitimate births, the latter exhibits the higher rates, the amount of the excess and its regularity throughout the table being on a scale similar to that indicated in the comparison between the sexes.

Table LXXXII.—Stillbirths. (1st July to 31st December, 1927).

	Number.					Rate per 1,000 live births.				
	Total.	Legitimate.		Illegitimate.		Total.	Legitimate.		Illegitimate.	
		Males	Females	Males	Females		Males	Females	Males	Female
All Areas										
England and Wales	12,586	6,647	5,260	385	294	40	43	36	54	44
North	4,995	2,673	2,058	150	114	45	50	40	60	49
Midlands ..	3,780	1,981	1,598	125	76	37	39	33	56	38
South (including London) ..	2,685	1,401	1,120	84	80	33	35	30	42	42
Wales	1,126	592	484	26	24	50	54	46	56	48
London	1,127	593	462	38	34	32	35	28	45	41
County Boroughs	4,682	2,499	1,922	142	119	42	46	37	56	51
North	2,708	1,442	1,107	89	70	45	49	39	63	55
Midlands ..	1,356	718	564	43	31	39	41	35	58	46
South	368	207	144	7	10	34	40	29	24	36
Wales	250	132	107	3	8	52	56	47	34	95
Other Urban Districts	4,325	2,271	1,853	121	80	41	44	38	55	39
North	1,662	902	691	39	30	49	54	43	56	43
Midlands ..	1,425	747	609	47	22	35	37	32	56	31
South	682	338	307	21	16	34	35	33	46	36
Wales	556	284	246	14	12	52	55	48	70	58
Rural Districts ..	2,452	1,284	1,023	84	61	38	41	34	52	39
North	625	329	260	22	14	40	44	36	59	40
Midlands ..	999	516	425	35	23	37	39	34	52	37
South	508	263	207	18	20	33	35	29	44	55
Wales	320	176	131	9	4	46	52	41	51	19

As regards areal comparison, Wales appears to return the highest frequencies; taken as a whole or by various degrees of urbanization, the rates are definitely higher than their counterparts in any of the English sections. Amongst the latter, the frequencies decrease progressively from the North, where the rate is about 12½ per cent. in excess of the general average, to the South where it is 17½ per cent. below. The rates tend on the whole to increase with urbanization but in this the progressions are not so uniform, the outstanding exception being the case of London which returns almost the lowest rate in the list.

The relative positions in the various portions of the country and the close association in this respect between stillbirths and infantile deaths are brought out in the following statement, in which the stillbirth rate of the latter half and infantile mortality rate of the whole year are expressed in relation to that of the country at large, the latter being taken as 100 in each case. The parallelism is found to be even closer when the mortality comparison is restricted to the deaths occurring within the four weeks immediately following birth. The appropriate figures based upon Table 13 of Part I of the 1927 Review are shown as a third column in the statement and it will be seen that the correspondence is definitely improved in a majority of the available comparisons.

	Stillbirths.	Deaths under one year.	Deaths under four weeks.
England and Wales	100	100	100
Legitimate	98	96	97
Illegitimate	123	171	181
All Areas—			
North	113	119	116
Midlands	93	93	100
South	83	79	81
Wales	125	116	119
London	80	84	75
County Boroughs	105	114	106
North	113	124	113
Midlands	98	106	103
South	85	80	84
Wales	130	117	122
Urban Districts	103	96	103
North	123	113	119
Midlands	88	89	97
South	85	70	81
Wales	130	120	119
Rural Districts	95	89	100
North	100	107	113
Midlands	93	83	97
South	83	70	84
Wales	115	109	113

NATURAL INCREASE.

In 1927 the excess of live births over deaths registered in England and Wales was 169,563, as compared with 240,759 in 1926, 237,741 in 1925 and 256,698 in 1924. This somewhat excessive drop in the natural increase figure has been occasioned by the conjunction of the special decrease in births due to causes already described with an almost equally fortuitous increase in deaths, the mortality of the year not being high in itself, but merely relatively so in contrast to the low record of last year.

Table LXXXIII.—England and Wales. Natural Increase of Population per 1,000 living, 1876-1927.

———	Mean Annual Live Birth-rate per 1,000 living.	Mean Annual Death-rate per 1,000 living.	Mean Annual Rate of Increase by excess of Births over Deaths per 1,000 living.
1876—1880.. ..	35·3	20·8	14·5
1881—1885.. ..	33·5	19·4	14·1
1886—1890.. ..	31·4	18·9	12·5
1891—1895.. ..	30·5	18·7	11·8
1896—1900.. ..	29·3	17·7	11·6
1901—1905.. ..	28·2	16·0	12·2
1906—1910.. ..	26·3	14·7	11·6
1911—1915.. ..	23·6	14·3*	9·3
1916—1920.. ..	20·1	14·4*	5·7
1921—1925.. ..	19·9	12·2	7·7
1907..	26·5	15·1	11·4
1908..	26·7	14·8	11·9
1909..	25·8	14·6	11·2
1910..	25·1	13·5	11·6
1911..	24·4	14·6	9·8
1912..	24·0	13·4	10·6
1913..	24·1	13·8	10·3
1914..	23·8	14·0	9·8
1915..	21·8	15·7*	6·1
1916..	21·0	14·3*	6·7
1917..	17·8	14·2*	3·6
1918..	17·7	17·3*	0·4
1919..	18·5	14·0*	4·5
1920..	25·5	12·4*	13·1
1921..	22·4	12·1	10·3
1922..	20·4	12·8	7·6
1923..	19·7	11·6	8·1
1924..	18·8	12·2	6·6
1925..	18·3	12·2	6·1
1926..	17·8	11·6	6·2
1927..	16·6	12·3	4·3

* For the years 1915 to 1920 inclusive the figures upon which these rates are based relate to civilians only.

From the comparable series of rates per 1,000 living population given in Table LXXXIII it will be observed that, though there is rather greater irregularity in the successive rates of natural increase, they have, over the whole range of years there given, followed on the whole a similar course to those followed by both birth and death-rates, and have declined with advancing years. The present rate of natural increase, 6·2 per 1,000 population last year and 4·3 this, is lower than that of any earlier recorded periods (outside the war years), and compares with a figure of approximately 10 per 1,000 in the years immediately preceding the war and over 14 per 1,000 in the period 1876–1880 when the birth-rate was at about its maximum. Stated in these terms the curve of natural

increase expresses no more than that the crude birth-rate has hitherto been greater than the crude death-rate and that the decline in the former has advanced at a greater rate than the fall in the latter. From the general continuity of the series it may be inferred that, even if the fall in the birth-rate continues, the number of births will continue to exceed the deaths for a number of years to come, and that apart from the results of migration, the population will continue to increase, though, naturally, at a somewhat slower pace.

What must not be inferred from mere excesses of births over deaths or from their alternative expressions as rates per 1,000 total population is that the perpetuation of current conditions regarding fertility and mortality would be sufficient to ensure a continuous increase in the national population, both now and in the remote future.

The population as a whole is gradually getting older and will continue to do so for many years to come owing to the heavy falls which have occurred in both fertility and mortality during the past half century, with the result that the older sections where the death frequencies are naturally highest are becoming relatively more and more numerous. Consequently, as is pointed out earlier in this report (p. 3) the crude death-rate (deaths per 1,000 population) must tend to rise if the true underlying mortality remains unchanged and will thus encroach on the already much diminished margin of natural increase recorded above for recent years. The encroachment would be delayed by a real decrease in mortality or an increase in fertility. But of the proximity of the latter there is no evidence at all; while as regards the former, from the very nature of the case, the lower mortality falls the less room is there for it to fall further and any practicable assistance from this source is therefore being gradually exhausted as the years go by. The inevitable inference must be that with a continuation of present conditions the future growth of population will tend to be at an ever diminishing rate up to the stage at which births and deaths are equal, the latter thereafter gaining the ascendancy with a consequent decline in population.

Somewhat similar conclusions were reached from an entirely different consideration of the position in last year's Review when the situation was discussed from the point of view of the birth-rate alone. The standard of population stability then adopted was not the maintenance of a constant total but the production of a standard number of births, the standard being that number which would in their turn and at the rate they themselves were born produce offspring numerically equal to themselves. It was shown that if fertility were to be maintained at the 1926 level, the 695 thousand children born in 1926—or rather those of them who survived to the reproductive ages—would in turn produce about 635 thousand children, the numerical strength of the new generation being thus only 91½ per cent. of their progenitors. In other words the 1926 rate was only 91½

per cent. of what it should have been if, on the conditions specified, continuity in reproduction was to be maintained at a constant level. For 1927 the rate has further declined and the corresponding sufficiency index would appear to have dropped accordingly to about 85 per cent. of the requisite standard. For the full 100 per cent. standard a crude birth-rate of about 19·5 per 1,000 population would be necessary and as this figure has not been reached in the last four years it seems safe to say that since about 1923 the birth-rate in this country has entered upon a stage which, if no future improvement takes place, must ultimately result in a declining population.

Table LXXXIV. shows for 1927 the rate of natural increase in various sections of the country, representing the combined effect of the several sectional birth and death-rates.

Table LXXXIV.—Natural Increase per 1,000 living, 1927.

——	England and Wales.	North.	Midlands.	South.	Wales.
All Areas	4·3	4·3	5·0	3·2	4·9
London	—	—	—	4·0	—
County Boroughs ..	4·4	4·3	5·4	2·3	5·2
Other Urban Districts	4·1	3·6	4·9	2·5	5·2
Rural Districts ..	4·6	6·1	4·7	3·2	4·2

GREAT BRITAIN AND IRELAND.

Population.—The first complete census of the United Kingdom was taken in 1821, when the population numbered 20,893,584 persons; during the 100 years 1821–1921 this number has increased by about 126 per cent., the sum of the final census figures for Great Britain and of the estimated population of Ireland in June, 1921, amounting to 47,263,196. The populations of the several portions of the United Kingdom for each census year from 1821 and for individual years from 1888 are set out in Table A.

Marriages.—The marriages during the year 1927 numbered 361,556, corresponding to a rate of 14·9 persons married per 1,000 of the total population. This rate was 1·1 above the corresponding rate in 1926, and 0·7 per 1,000 below the average rate in the ten years 1917–1926.

Births.—The births registered in the year 1927 numbered 837,574, and were in the proportion of 17·3 per 1,000 of the total population. This rate was 1·1 per 1,000 below the corresponding rate in 1926, and 2·8 per 1,000 below the average in the ten years 1917–1926.

Table LXXXV.—Great Britain and Ireland. Vital Statistics 1917–1926 and 1927.

——	Great Britain and Ireland.	England and Wales.	Scotland.	Northern Ireland.	Irish Free State.
Estimated Population in the middle of the year 1927 *(in thousands).*					
Males	23,260	18,804	2,352	605†	1,499
Females	25,130	20,486	2,540	646	1,458†
Persons	48,390	39,290	4,892	1,251†	2,957†
Marriages.					
1927	361,556	308,370	32,593	7,175	13,418
Persons married per 1,000 living :—					
1917–1926 ..	15·6	16·2	14·8	12·9	10·0
1927	14·9	15·7	13·3	11·4	9·1
Births.					
1927	837,574	654,172	96,672	26,676	60,054
Per 1,000 living :—					
1917–1926 ..	20·1	19·4	22·7	22·8	20·4
1927	17·3	16·6	19·8	21·3	20·3
Deaths.					
1927	612,332	484,609	65,830	18,216	43,677
Per 1,000 living :—					
1917–1926 ..	13·5	13·0*	14·3	16·6	15·4
1927	12·7	12·3	13·5	14·6	14·8
Deaths of Infants under 1 *year.*					
1927	60,514	45,610	8,576	2,074	4,254
Per 1,000 births :—					
1917–1926 ..	82	81	94	88	75
1927	72	70	89	78	71

* For the years 1917–1920 inclusive the figures on which this rate is based relate to civilians only.

† Estimate revised subsequent to publication of Part II. of this Review.

Deaths.—The deaths registered in the year 1927 numbered 612,332, and were in the proportion of 12·7 per 1,000 of the total population. This rate was 0·7 per 1,000 above the corresponding rate in 1926, and 0·8 per 1,000 below the average in the ten years 1917–1926.

Infant Mortality.—The deaths of infants under one year of age during the year 1927 numbered 60,514, representing a rate of 72 per 1,000 live births. This rate was equal to that recorded in 1926 but was 10 per 1,000 births below the average in the ten years 1917–1926.

BIRTHS AND DEATHS AT SEA.

Marine Register Book.—In accordance with the Births and Deaths Registration Act of 1874 and the Merchant Shipping Act of 1894, Commanding Officers of ships trading to or from British ports are required to transmit returns of all births and deaths occurring on board their ships to the Registrar-General of Shipping and Seamen, who furnishes certified copies of such returns to the Registrars-General of Births and Deaths for England, Scotland, Northern Ireland and the Irish Free State. Similar returns are furnished to the Registrars-General of Births and Deaths by Officers in command of His Majesty's ships. These returns of births and deaths at sea constitute the "Marine Register Book." During the year 1927 this register was increased by the addition of 168 entries of birth and 2,633 entries of death.

REGISTRATION OF BIRTHS, DEATHS AND MARRIAGES.

Progress of Registration.—The names in the alphabetical indexes of births, deaths and marriages recorded in the national registers of England and Wales were increased during the year 1927 by 1,755,521, this addition raising the total of names in the indexes, which at the end of 1927 embraced a period of 90½ years, to 152,684,575 (Table S).

Searches and Certificates.—Besides the certified copies of the registered births, deaths and marriages kept in England and Wales pursuant to the Registration Acts, a large number of other registers and records are deposited in this Office under statute or other arrangement. A revised list of these various registers and records will be found on pages 149–155 of the Review for 1925. Searches may be made in any of these registers, and certificates obtained on payment of the prescribed fees.

Table LXXXVI, affords an indication of the extent to which the copies of the records kept in this Office have been utilized by the public for legal evidence of births, deaths and marriages since 1866.

The 854,084 gratuitous searches during 1927 comprise 70,165 searches made for the purpose of verifying the ages of persons aged 70 and upwards claiming old age (non-contributory) pensions and 654,327 for persons aged 65 and 69 claiming pensions under the Old Age Contributory Pensions Act, 1925, 76,649 for verification purposes in connexion with claims to widows' and orphans' pensions under the Widows', Orphans', etc., Act, 1925, 40,941 to assist dependents of men of H.M. Forces to produce evidence of marriage and of the births of children in connexion with claims to naval and military pensions, separation allowances, etc.,

Table LXXXVI.

Years.	Total Searches.	Gratuitous Searches.	Searches paid for by Fees.	Certificates Issued.	Amount Received.		
					£	s.	d.
1866 (52 weeks)	12,135	—	12,135	10,017	1,860	15	6
1875 (52 weeks)	26,356	—	26,356	20,282	3,879	15	6
1885 (52 weeks)	36,450	—	36,450	27,682	5,317	13	6
1895 (52 weeks)	53,289	—	53,289	35,727	7,200	12	6
1905 (52 weeks)	65,142	—	65,142	50,310	9,611	9	0
1906 (52 weeks)	64,340	—	64,340	49,429	9,458	6	0
1907 (52 weeks)	69,249	—	69,249	53,058	10,194	9	0
1908 (53 weeks)	72,370	—	72,370	54,870	10,550	8	0
1909 (52 weeks)	132,169	58,626*	73,543	54,674	10,568	8	0
1910 (52 weeks)	126,716	51,347	75,369	57,019	10,939	5	6
1911 (52 weeks)	140,496	65,491	75,005	56,347	10,875	6	0
1912 (52 weeks)	149,752	69,151	80,601	61,143	11,752	6	0
1913 (52 weeks)	150,540	71,225†	79,315	60,356	11,613	19	0
1914 (53 weeks)	188,040	104,593	83,447	65,817	12,482	11	6
1915 (52 weeks)	202,939	118,788	84,151	69,746	13,007	10	0
1916 (52 weeks)	303,334	197,669	105,665	88,265	16,379	17	0
1917 (52 weeks)	272,199	177,403	94,796	80,374	14,859	14	0
1918 (52 weeks)	255,462	146,504	108,958	90,898	16,889	0	0
1919 (52 weeks)	301,913	170,670	131,243	107,067	20,017	14	6
1920 (53 weeks)	284,194	149,447	134,747	108,684	20,415	0	0
1921 (52 weeks)	258,461	131,167	127,294	99,911	18,949	10	6
1922 (52 weeks)	263,047	143,088	119,959	90,400	19,028	12	6
1923 (52 weeks)	269,822	144,118	125,704	93,701	20,875	16	0
1924 (52 weeks)	337,521	178,990	158,531	121,890	27,109	15	0
1925 (53 weeks)	488,781	339,790	148,991	115,378	25,610	2	6
1926 (52 weeks)	541,916	407,687	134,229	105,560	23,305	6	6
1927 (52 weeks)	1,002,345	854,084	148,261	115,009	25,733	16	0

* Including some searches made in 1908.

† In addition, there were 91,917 gratuitous searches made for National Insurance Audit purposes.

and to verify the ages of certain classes of youths and men in connexion with service in the Army, Navy, and Air Force, and 12,002 for other public purposes.

Offences against the Registration Acts.—In 1927 twenty-six persons, on prosecution by order of the Registrar-General, were convicted of offences in connexion with registration. The offences for which convictions were obtained were as under :—

(*a*) Giving false information when registering a birth or death 23

(*b*) For using as true a falsified Certificate of birth or death 2

(*c*) For failing to deliver to the Registrar-General a quarterly return of marriages 1

In addition to the above cases proceedings were taken and convictions obtained by the Director of Public Prosecutions in cases reported through the Registrar-General, the offences being those of false registration and making false declarations when giving notice of marriage.

NEW LEGISLATION.

During the year 1927 the work of the Department was affected by several new Acts of Parliament.

The Births and Deaths Registration Act, 1926, though not directly concerned with the statistical work of the Department, contained provisions indirectly improving or extending the volume of vital statistics hitherto available. By the institution of stillbirth registration, the body of statistical material provided by the registration system has been enlarged in this important province. The subject is more particularly referred to on page 128. Further, the Act rendered possible certain modifications in the procedure of medical certification of cause of death which, it is hoped, will in due course effect substantial improvements in the quality of those important classes of mortality statistics which are based upon such certificates. (See Appendix).

Improvements were also introduced in the procedure relating to medical death certification with the object of increasing the safeguards against the risks which in some quarters have been alleged to exist in the general system of arrangements relating to the burial, etc., of deceased persons. As already announced, it is intended that statistics shall be annually published for the purpose of illustrating the extent of the progress made in the desired direction. As the Act did not come into operation, however, until the 1st July, 1927, it has appeared necessary, in order that the series of annual statistics on this subject may be fully comparable, to defer their commencement until material for a full calendar year becomes available. It is accordingly proposed to include in the "Text" volume of the Registrar-General's Statistical Review for 1928, a special section dealing with this subject, and furnishing, for the year 1928, statistics on a scale of sufficient elaboration to serve as a datum line for comparison with any subsequent year.

The Legitimacy Act, 1926, which came into operation at the beginning of the year 1927, legitimated, subject to certain conditions, the illegitimate child of parents who married after the birth of the child, and contained incidental provision to enable the births of such legitimated children to be re-registered as legitimate. During the year 1927 authority was issued for the re-registration of the births of 5,495 children, while 291 applications (covering rather more than that number of children) were refused, either on the ground that the evidence submitted was insufficient to satisfy the Registrar-General, or because in the particular circumstances the Act prohibited re-registration without a judicial declaration of legitimacy. It was within the knowledge of the Department, that a considerable number of people were awaiting the passage of this Act into law, with a view to taking advantage of its provisions for their previously illegitimate children. It was, therefore, anticipated that in the initial period of its operation a considerable pressure of applications would be received, representing the accumulation of cases

awaiting the long desired change in the law, and that, on this accumulation being disposed of, the current intake would show a substantial reduction. These expectations were not, however, realised during 1927; the number of authorities issued in the March Quarter was approximately equalled during the June Quarter and exceeded in the September Quarter; while, owing to publicity having been given to the subject in the daily press, a further increase was experienced during the last Quarter of the year. The actual figures for the four Quarters are, 1,265, 1,256, 1,381 and 1,593. It would appear, therefore, that if the initial rate of applications represents an accumulation of waiting cases, this accumulation has not as yet been disposed of; and no indication is at present available as to the normal current volume of applications which may in future be expected.

The Adoption of Children Act, 1926, provided for the legal adoption of children by Order of the Court, and established a system of registration of such adoptions in an Adoption Register to be kept by the Registrar-General. The number of children whose adoption was registered during 1927, is 2,967, the following table furnishing an analysis of the Adoption Orders made by reference to the several classes of Courts and the quarterly distribution of the total figure.

Table LXXXVII.

Year.	Number of Adoption Orders dealt with.				Corresponding number of children, *i.e.*, Entries made in Adopted Children Register.				
	Total.	High Court.	County Court.	Court of Summary Jurisdiction.	Year's total.	March Quarter.	June Quarter.	September Quarter.	December Quarter.
1927	2,943	133	184	2,626	2,967	329	990	774	874

PARLIAMENTARY AND LOCAL GOVERNMENT ELECTORS.

In Tables T and U are shown the numbers of males and females on the Register of Electors compiled under the Representation of the People Act, 1918, in respect of the qualifying period of three months* ending on the 1st June, 1927.

* The 6 months qualifying period in the Representation of the People Act, 1918, has now been reduced to 3 months by the Economy (Miscellaneous Provisions) Act, 1926, with effect from 1927 inclusive.

The particulars have been taken from statements furnished to the Registrar-General by the Registration Officers of the several areas, or in the case of a University forming the whole or part of a University constituency, by the Chancellor, Registrar or other officer dealing with Parliamentary registration.

The expressions " Parliamentary electors," " Local Government electors," and " persons on absent voters list," have in the tables the same meaning as in the Act. The expression " men registered for business premises qualification," means men who are qualified to be registered as occupiers of business premises and are not resident in the qualifying premises.

Registration Officers were instructed that the return of Parliamentary Electors should be the net total of individual Parliamentary Electors in each constituency, all duplicate entries being omitted from the count. In the case of Local Government Electors the number of names on the register was to be given. The instructions further directed that the names of " out voters " (that is, persons whose names appear twice in the Register, by reason of a claim under Rule 24 of the First Schedule to the 1918 Act) should be counted once only in respect of that qualification.

Table T refers to Parliamentary electors, and shows for each Parliamentary constituency in England and Wales, including the University constituencies, the number of males and females on the Register, and also the numbers registered in respect of business premises qualifications and the numbers on the absent voters list.

Table U refers to Local Government electors, and shows the numbers of each sex registered in respect of every sanitary area, i.e., county borough, metropolitan borough, municipal borough, urban district and rural district in England and Wales.

Table LXXXVIII—England and Wales.— Parliamentary and Local Government Electors.

Register	Parliamentary Register (including University Constituencies).					Local Government Register.		
	Persons.	Males.	Females.	Men registered for business premises qualification (included in Cols. *b and c*).	Persons on Absent Voters List (included in Cols. *b–d*).	Persons.	Males.	Females
a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*
Autmn								
1918	17,222,983	10,281,054	6,941,929	159,013	3,362,028	13,930,130	6,998,665	6,931,465
1919	17,465,638	10,234,887	7,230,751	205,461	1,157,061	14,361,123	7,176,019	7,185,104
1920	17,584,552	10,176,750	7,407,802	203,471	254,866	14,712,453	7,364,912	7,347,541
1921	17,795,784	10,237,344	7,558,440	194,737	185,227	15,019,348	7,527,861	7,491,487
1922	18,001,692	10,312,248	7,689,444	199,904	162,901	15,322,625	7,700,108	7,622,517
1923	18,388,833	10,498,179	7,890,654	208,694	151,953	15,691,962	7,873,461	7,818,501
1924	18,806,842	10,719,922	8,086,920	211,257	165,564	16,015,033	8,007,384	8,007,649
1925	19,167,275	10,897,545	8,269,730	217,509	167,406	16,345,290	8,157,607	8,187,683
1926	19,346,954	10,982,128	8,364,826	206,199	161,460	16,574,549	8,284,181	8,290,368
1927	19,585,972	11,094,031	8,491,941	205,538	155,436	16,865,666	8,444,718	8,420,948

The totals of the Autumn 1927 Registers are shown in the foregoing summary in conjunction with the figures of previous Autumn Registers made since the passing of the 1918 Act.

It will be observed that the female electorate on the Parliamentary Register and both male and female on the Local Government Register have steadily increased with the increase in population since the passing of the 1918 Act. The male Parliamentary electorate has increased since 1920, but prior to that year decreases were shown, due, as explained at greater length in the 1921 Review, to a special provision of the 1918 Act under which members of the fighting forces were exceptionally placed upon the register at the age of 19 instead of the normal age of 21. The consequence of this was that in the two years after demobilisation, the normal number of new entrants was diminished by the earlier registrations at a younger age and the residue was less than the lapses by death, etc.

Including a certain amount of plural representation in the case of those persons registered in more than one constituency by reason of their possessing the necessary residence or business qualification, or being entitled to be registered in respect of a University constituency, the total Parliamentary electorate of 19,585,972 represents 49·8 per cent. of the estimated total population, or 59·0 per cent. of the male and 41·5 per cent. of the female population; in the case of the rather more restricted Local Government franchise, the numbers are somewhat less and the proportions correspondingly lower, the total electorate being 42·9 per cent. of the whole population, or 44·9 per cent., and 41·1 per cent. in the case of males and females separately.

Of the total of the Parliamentary Registers, the bulk, viz., 19,525,260, represents the aggregate voting strength in the 509 geographical constituencies into which England and Wales is divided, the balance of 60,712 representing the five University constituencies. Eleven of the Boroughs, and three University constituencies, however, each return two members, so that the total representation in Parliament is by 528 members, 520 in respect of the geographical divisions, with an average electorate of 37,549 per member and eight in respect of the Universities, with an average electorate of 7,589.

MISCELLANEOUS.

Other tables appearing in Part II. of the Statistical Review which have not formed the subject of special comment in the foregoing pages are as follows :—

Table R, showing the balance inward or outward of passenger movement into and out of the United Kingdom for each of the years from 1908–1927.

Table W, showing the Area, Population, Births and Deaths in British Islands other than Great Britain and Ireland from 1902–1927.

Table X, showing the Population, Births, Deaths, Infant Mortality, Marriages and corresponding rates for the year 1927 in the several portions of the British Dominions :—

The Commonwealth of Australia.
Canada.
New Zealand.
South Africa.

Table Y, showing the 1921 Census Populations, and the intercensal rate of increase or decrease of the several Dominions, Colonies and Protectorates (including mandated territories) in the British Empire.

Table Z, showing the latest Census Populations and intercensal rates of increase or decrease in various Foreign Countries.

Table AA, showing the changes which have taken place in the boundaries of Administrative and Poor Law Areas in England and Wales during 1927.

Table BB, showing the changes which have taken place in the boundaries of Administrative Areas in England and Wales during 1927, with enumerated population by sex and age (1921) of the transferred areas.

METEOROLOGICAL REMARKS.

The Weather during the Year, 1927.

The outstanding features of the weather of the year 1927 were the marked and persistent wetness of the summer and early autumn and the excessive wetness of the year as a whole ; the year 1927 was the wettest of the six consecutive wet years which have occurred since 1921 while over the greater part of the country the summer was the worst experienced since the " black year " of 1879. The general precipitation of England and Wales amounted to 124 per cent. of the normal for the period 1881–1915. This percentage value is, however, not unprecedented and it is only necessary to go back to 1912 and thence to 1903 to find values of 125 and 128 per cent. of the normal respectively to represent the general rainfall of England and Wales. Notable cold spells occurred in January, February, November and December, but there were no really hot spells, the highest temperature recorded in the summer generally not exceeding 80° F.

Other conspicuous meteorological features were the violent and destructive gales of 28th January and 28th–29th October, the severe frosts at the end of April and beginning of May, a cold June, the frequent and severe thunderstorms in July, the excessive wetness of September, the unusually high temperatures early in November, and the severe snowstorms of Christmas week in southern England.

Conditions on the whole were mild during the first five months. Monthly mean temperatures were above the normal in July, except in the east of England and in August and October, below

the normal in June, September and December and about normal in November; for the year as a whole, the mean temperature was in general slightly above the normal. Sunshine aggregates for the year were mostly below the normal. Less than the normal amount of sunshine was recorded in nearly all districts during each of the months, June to September, July being everywhere conspicuously dull and September equally so in the southern and eastern districts.

Apart from wintry weather during the third week of the month, *January*, on the whole, was rather mild with a marked prevalence of westerly winds, wet, except in coastal districts in the east, and windy, extremely stormy weather prevailing about the middle of the month and from the 20th to the 28th, with widespread severe gales on the 28th. In *February* quiet cloudy conditions with much fog prevailed generally up to the 19th with low temperatures from about the 8th to the 13th; thereafter the weather was mild and unsettled with excessive precipitation in the south. *March* was wet and very mild, maximum temperature reaching or exceeding 60° F. about the 19th. Severe gales occurred in the south on the 25th and 31st. The weather during *April* was unsettled early in the month with frequent rain and showers of hail, sleet and snow, fine and warm from the 18th to the 21st and cold but sunny with severe local ground frost during the last week of the month. *May* was a quiet and relatively dry month generally and warm and sunny in the south with a considerable frequency of winds between north-west and north-east and a pronounced deficiency of rainfall in some eastern and south-western districts. A short, warm spell occurred from about the 4th to the 7th when maximum temperatures between 70° F. and 80° F. were recorded. Apart from generally fair weather from the 11th to the 15th and rather high temperature between the 15th and 17th (85° F. at London on the 16th) cold unsettled weather with local thunderstorms prevailed during *June* with much heavy rain and high winds during the last two weeks. *July* was unsettled, dull and wet generally with frequent thunderstorms, those of the 5th, the night of the 6th–7th, the 10th to the 13th and the 21st being notably severe. The thunderstorm of the 5th was responsible for severe flooding in the northern districts while the storm of the 6th–7th was the worst experienced at Dover for many years. During the afternoon thunderstorm of 11th July in London more than 2 inches of rain fell, over an area between Hammersmith Bridge, Wormwood Scrubs and Kensington Gardens. Apart from a few fine days at the beginning and end of the month the weather during *August* was unsettled and wet. *September* was cold and extremely wet with many thunderstorms and frequent strong winds from the 6th onwards. In some southern districts more than three times the normal amount of rain fell. Agricultural work was seriously affected. Mainly fine dry weather with much local morning and evening fog prevailed during the first half of

October; conditions then deteriorated and from the 21st to the end of the month unsettled weather with frequent rain prevailed, the last week being abnormally mild with destructive gales on the 28th–29th. The weather during *November* was rather variable; unusually mild weather during the first few days of the month during which temperature rose above 60° F. on the 2nd and 3rd was followed by a spell of cold wintry weather and northerly winds from the 7th to the 14th. The general precipitation for the month was above the normal; mean temperature and sunshine aggregates were mostly below the normal. *December* was mainly dull and wintry with an unusual prevalence of easterly winds. A temporary incursion of warm, moist air gave rise to glazed frost in many districts on the 21st and in London caused much inconvenience and occasioned numerous street accidents. Unusually severe snowstorms accompanied by north-easterly gales occurred in the south on the 25th, 26th and 27th. The strong winds continued to the 29th and caused severe drifting with serious interruption of rail and road communication.

Further information.—Tables relating to meteorological elements are given in Part I (Tables 29–31). A description of the weather of each month appears in the Quarterly Return of the Registrar-General and a summary of the observations at Greenwich for each month of the year appears in Table XIV of the Return for the fourth quarter.

Charts showing the distribution of pressure, temperature, sunshine and rainfall for the year, together with summaries of the observations at numerous stations will be found in the Annual Summary of the Monthly Weather Report issued by the Meteorological Office.

A list of the publications of the Meteorological Office will be found in "List M" issued by H.M. Stationery Office.

APPENDIX.

The Form of Medical Certificate of Cause of Death.

Until July 1, 1927, although the law required the Registrar-General to supply medical practitioners with printed forms for the purpose of certifying the cause of death, it placed no compulsion upon practitioners to use such forms; and thus, though almost all certificates were in fact given on the official form, no power existed to enforce its completion in all respects. But the Births and Deaths Registration Act, 1926, conferred power upon the Registrar-General to prescribe a form for this purpose; and a form was accordingly prescribed, and came into use on July1, 1927. The opportunity was taken of making, among other improvements, certain changes in wording which had for some time been in contemplation. The old form had for many years made a distinction between "primary" and "secondary" causes of death, which was found up to the last to lead to much confusion, increased by the fact that the word "contributory" was introduced as a variant for "secondary." It was thus impossible to tell whether any "secondary" cause was regarded as a consequence of the primary, or as of independent origin, but contributing appreciably to the death. Moreover, it was very difficult to say, in any instance, how far the quest of the "primary cause" should be pushed. If a cancer, for instance, could be referred to some definite irritation, as by tar or oil, was the cancer or the irritant the primary cause?

Although little if any difficulty in fact arose in this particular instance it seemed desirable to provide a form which would not open up such theoretical possibilities of preferring what might be merely a personal view to the statement of an important cause of death. The order of statement was, therefore, reversed, by calling first for the immediate, (not the primary,) cause, and then, in order, for any others of which it was the consequence, thus providing a more definite starting point for the train of related causes. At the same time provision was made for entry, as such, of any unrelated cause which was regarded as having contributed in important degree to the death.

It was hoped thus to ascertain from the certificate, when the certifier found it necessary to record more than one cause of death (1) whether these were regarded as related or of independent origin, and (2) what, in the first event, their relation was considered to be. This information was sought in order that the necessary selection of some one of these causes for tabulation might be made in the light of the certifier's view of their relationship; but care was taken to point out that increased elaboration of certification was not desired, the entry of a single cause being preferable in all cases where this could be regarded as adequate.

Unfortunately, both this request and the inversion of the former order of statement, where two or more related causes are returned, have been disregarded by many certifiers, with the result that to this extent the objects of the new form of certificate have so far failed to materialize. Unnecessary complexity of statement increases the difficulty of selection; and failure to observe the prescribed order of statement obscures the presentation of their relationship. For if the tabulator has reason to suspect that the certifier is proceeding from primary to secondary instead of from immediate to antecedent he is necessarily uncertain of the certifier's view. For this reason it has not yet been found possible in tabulation to make the use intended of the statements as to relationship of multiple causes called for by the new form of certificate; and for the present arbitrary rules of selection have still to be applied where more than one cause of death is returned. It is recognised that these must often involve an allocation of the death with which the certifier would not agree, but so long as his meaning is obscured by frequent inversion of the order of statement, his view is not available as a guide to the tabulator.

The two requisites for tabulation of causes of death as envisaged by their certifiers appear then to be—(1) simplicity in certification, including its restriction to a single cause in as many cases as can adequately be so described; and (2) return of multiple causes, if stated, in the position provided on the new form of certificate as indicative of their mutual relationships. It is hoped that a fuller appreciation on the part of the medical profession of these requisites and of the principles upon which the new form is based will gradually lead to the realization of the important advantages which it is designed to secure.

This form is reproduced on page 147.

Registrar to enter No. of Death Entry.

.....

BIRTHS AND DEATHS REGISTRATION ACTS, 1836 TO 1926.

MEDICAL CERTIFICATE OF CAUSE OF DEATH

For use only by a Registered Medical Practitioner who has been in attendance during the deceased's last illness, and to be delivered by him forthwith to the Registrar of Births and Deaths direct.

Name of Deceased.....

Date of Death as stated to me.....day of.....19..... Age as stated to me.....

Place of Death.....

Last seen alive by me .....day of.....19..... Seen* / Not seen* after death by me.

Post mortem held* / not held*

CAUSE OF DEATH.

I.

Immediate cause† ... ... *a*.....

due to

Morbid conditions, if any, giving rise to immediate cause (stated in order proceeding backwards from immediate cause) ... ... *b*.....

due to

c.....

II.

Other morbid conditions (if important) contributing to death but not related to immediate cause ... .

.....

I hereby certify that I was in medical attendance during the above named Deceased's last illness, and that the particulars and cause of death above written are true to the best of my knowledge and belief.

Signature..... *Qualifications as registered by Medical Council*.....

Residence..... *Date*.....

* Strike out whichever is inapplicable.

† This means the disease, injury or complication which caused death—**not** the mode of dying, as, *e.g.*, heart failure, asphyxia, asthenia, etc.

SEE BACK.

.....

Back of form.

Fill up where applicable.

A.

I have reported this case to the Coroner.

Initials of Certifying Medical Practitioner .....

Fill up where applicable.

B.

I may be in a position later to give, on application by the Registrar General, additional information as to the cause of death for the purpose of more precise statistical classification.

Initials of Certifying Medical Practitioner .....

NOTE.—The Practitioner, on signing the certificate, should fill up, sign and date the Notice to the Informant, which should be detached and handed to the Informant. The Practitioner should then, without delay, deliver the certificate itself to the Registrar of Births and Deaths for the sub-district in which the death occurred. It may be delivered by post; and the practitioner is supplied by the Registrar, gratis, with postage-paid envelopes for this purpose.

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